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ABSTRACT

Four issues of the 1983/84 newsletter from a preparatory school for learning disabled (LD) students address issues on the education of LD students. Included are examinations of the following topics: therapeutic interventions and educational strategies, cognitive development in LD and non-LD adolescents, computers used to strengthen metacognitive abilities, group therapy within an academic setting, use of word processors with dyslexic students, constructing a diagnositc picture from psychometric data, classroom techniques for educational/practical assessments, psychotherapeutic interventions for LD adolescents and their families, and social competency groups designed to improve interpersonal skills, and a study of the effects of a program incorporating educational and emotional factors. (CL)

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HILL TOP
Spectrum
Hill Top Preparatory School
Rosemont, Pennsylvania 19010
Vol. I, No. 1 September, 1983

Therapeutic Interventions and Educational Strategies for Learning Disabled Students

by Elissa L. Fisher, Ed.M.

The education of any learning disabled child is a challenging process. It is even more challenging with a learning disabled adolescent because it is difficult at this level to separate the neurological and emotional components. Both must be taken into consideration when planning any program of educational therapy. A philosophy of therapeutic intervention must be carefully formulated and specific techniques and strategies designed to enhance the strengths and compensate for the weaknesses of each individual student. Therefore, the starting point of any program of educational therapy is the student.

The learning disabled present with combinations of the following:

- emotional problems that revolve around feelings of frustration, impotence, fear, anger, depression, alienation, boredom, emptiness, unrelatedness, and being handicapped
- lack of understanding about the nature of the handicap which can be receptive, integrative, expressive, or diffuse, and which manifests itself in many types of baffling disabilities ("Can't read, can't write, can't talk too good either")
- compensatory defense mechanisms, many of which are self-defeating
- inability to test reality well which limits his skill in making good judgments and results in being emotionally bruised by interactions with others in home, social and educational environments
- poor self-concept
- lack of trust in authority figures.

This lack of trust means the very people who can be of most assistance in treatment are the very people who are viewed with suspicion. Parents are people seldom pleased. Siblings often are resented because of their more appreciated abilities. Peers of a genuinely friendly nature are few. Teachers are not to be trusted because if they really knew what they were doing the student wouldn't be in this mess to start with. Neurologists are viewed as people who ask the student to do strange things like stand on one foot, touch his nose, and tolerate "gunk" in his hair. They also use big words when they talk to parents and say something's wrong with the brain when eveyone knew that already. Psychologists just sit and wait for the student to tell them what's worrying him when thinking of those words and getting them said is a big problem. Psychiatrists give out pills. Neuropsychologists have as yet escaped critiquing because they are a newer breed.

The first critical intervention is to start with the child and a comprehensive neuro-psycho-educational evaluation using a case typing approach to determine what really is happening. The value of such an evaluation is that you not only end up with "what," but usually "to what degree." When properly done, it also gives a very clear picture of the student's strengths and weaknesses.

A complete evaluation taken together with parent and student interviews, information gleaned from all previous school records, reports from all professionals who have dealt with the child, and a case history which includes developmental, academic, social, physical, and emotional summaries would give sufficient working data to determine:

- instructional levels
- strengths and weaknesses (Which modality works best and which is weakest?)

continued on page 4

EC171374

ANNOUNCING . . .

What? A two day minicourse for educators of the learning disabled, "A Systems Approach for Designing Strategic Interventions in Educating and Treating the Learning Disabled Adolescent"

When? October 28-29, 1983
Where? Hill Top Preparatory School
So. Ithan Ave. & Clyde Rd.
Rosemont, PA 19010
Information? Contact Ann Denny
Hill Top Preparatory School

Graduate credit from an accredited university will be awarded to those who successfully complete the course.

The spatial task, equilibrium in the balance, was one of three Piagetian tasks for hypothetico-deductive reasoning used in the cognitive development research.

Subject considers response in the conservation of volume test.

Researcher Compares Cognitive Development in LD, Non-LD Adolescents

by June Miller White, Ph.D.

By definition learning disabled adolescents are well behind their normal learning peers in academic achievement. Some researchers have suggested that maturational lag or developmental delay is a factor in the differences in academic achievement between the two groups. Educators have long known that learning depends upon readiness or the capacity of the learner at a given stage of development. If learning disabled are not at a stage where they can succeed in formal operational tasks, then curricula assuming this cognitive level are inappropriate. On the other hand, if learning disabled adolescents can reason hypothetically, educators must be careful to provide them with meaningful experiences utilizing formal operations.

Many curricula at the junior and senior high level, especially in science and mathematics, assume a level of cognitive functioning in which the learner can think propositionally and hypothetically. Whether learning disabled students are ready for curricula at this level depends in part upon whether they have reached the Piagetian stage of formal operations.

Inhelder and Piaget (1958) found that somewhere between twelve and fifteen years of age, thinking of children shifted from operating directly from experience or reality to operating with possibility or hypotheses. To determine if this shift occurs at approximately the same age for learning disabled children as it does for normal learning children was the task of this study.

METHOD

The sample consisted of fifty-four students with twenty-seven in the normal learning group and twenty-seven in the learning disability group. Each member of the learning disability group was matched with a member of the normal learning group for IQ and for age. All pairs were matched within seven months for age and within seven points on the Wechsler Full Scale IQ with two exceptions, two pairs of twelve year olds who were ten points apart of full scale IQ. All subjects measured in the average, high average, or superior range for full scale IQ; that is, no subjects in this study were below average IQ (below 90). Each group of twenty-seven was subdivided into three sub-groups of seven twelve year olds, ten fourteen year olds, and ten sixteen year olds. A close match for age and IQ was achieved ($p < .05$).

All subjects in the normal learning group attended a private suburban Philadelphia academic school and all scored at or above grade level in English areas and mathematics areas on The Educational Records Bureau Comprehensive Testing Program. All Subjects in the learning disability group were in specialized suburban Philadelphia private schools and all scored below grade level on at least one of the English or mathematics subtests of the ERB.[1]

Each subject was individually administered a battery of five tasks. To assess whether subjects had achieved the last stages of concrete operations, a task involving conservation of volume was given. This task included the six parts in the conservation of volume section of the Roberts Test of Conservation Development (Roberts, 1978). To assess for attainment of formal operations, three Piagetian tasks for hypothetico-deductive rea-

[1] Six of the 12 years olds in the learning disability group were administered Primary I, Primary II, and Intermediate I levels of the Stanford Achievement Tests because prior achievement testing indicated their levels were too low for the ERB which was administered to the other subjects.

soning were administered. These three tasks included a spatial task, a numerical task and a verbal task. The spatial task, equilibrium in the balance, was used by Inhelder and Piaget (1958) and by Lovell (1961). The numerical task was based on a task with colored marbles used by Laurendeau-Bendavid (1977). The verbal task consisted of two parts. The first part was five absurd sentences (Binet and Simon, 1919; Piaget, 1928; and Terman and Merrill, 1960). To assess flexibility of language and ability to shift frames of reference, the Uses of Things Test (Getzels and Jackson, 1962) was used.

HYPOTHESES

Three hypotheses were used:

1. There is a significant difference in cognitive functioning between the learning disability group and the normal learning group.
2. There is a significant difference in cognitive functioning across age.
3. There is a significant interaction of age by group.

RESULTS

Hypothesis 1: The differences in cognitive functioning between the two groups were significant on the flexibility task ($p = .002$) and the verbal task ($p = .01$). There were no significant differences in hypothetico-deductive reasoning on the spatial task and on the numerical task.

Hypothesis 2: Age was significant ($p < .05$) or close to significance ($p > .05 < .10$) for all tasks except conservation which is usually acquired near the end of concrete operations (11 or 12 years of age). Since all the subjects were twelve or older, they would be expected to have acquired conservation if there is no developmental delay. Age was a significant factor in tasks requiring flexible thinking and the three formal operational tasks requiring hypothetico-deductive reasoning.

Hypothesis 3: No significant two-way interactions of age by group were revealed.

DISCUSSION

The lack of differences in scores on the conservation of volume task is indicative of no delay for the learning disability group in learning concrete operations. The results also provided no support for viewing learning disability as developmental delay on spatial or numerical tasks. In the spatial and numerical tasks the learning disability students demonstrated hypothetico-deductive skills that are not significantly different from those of normal learning students. Even on the verbal task, an analysis reveals the learning disability students can describe absurdities as well as the normal subjects, indicating that their relational judgments are not significantly different. They cannot, however, use conjunctions as well as the normal learning group. This suggests that the difference between the two groups is not skill in hypothetico-deductive reasoning, but is related to skill in specific language usage.

The significantly lower scores of the learning disability group on the flexibility task and parts of the verbal task suggest consideration of the following:

1. Learning disabled adolescents might be less able than normal learning adolescents to be flexible in their thinking.
2. Learning disabled adolescents might be less likely than normal learning adolescents to shift frames of reference.
3. Learning disabled adolescents might have less facility with specific language usage than normal learning adolescents.
4. Learning disabled adolescents might be less able in divergent thinking than normal learning adolescents.

The results raise many questions about verbal flexibility and complex language usage in learning disabled adolescents. While disabled and normal learning adolescents appear to have similar abilities for hypothetico-deductive reasoning, learning disabled adolescents demonstrated less ability in using precise language. Therefore, communication of thinking skills may be distorted.

SUMMARY

The question was raised initially regarding whether learning disabled adolescents reach formal operations at the same age as normal learning adolescents. The data in this study suggest that they can indeed think as well propositionally and hypothetically as their normal learning peers when they are matched in age and IQ. The learning disabled student may achieve less academically because of his or her difficulty with specific language usage.

The results also suggest that learning disabled are ready for curricula requiring formal operations if instruction is appropriate; i.e., instructors diagnose the individual student's learning style and his or her background of content already achieved. To achieve academic gains for the learning disabled, educators may need to instruct in a way that accepts both the skills in reasoning and the deficiencies in vebal flexibility of this population group.

This research was conducted in partial fulfillment of the requirements for the doctor of philosophy degree at Bryn Mawr College.

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Family Role Behaviors Differ with Disabled Siblings

by Bruce V. Miller, Ph.D.

A study was conducted to investigate (1) whether there was significantly different behavior executed and indicative of family role patterns and interpersonal styles between parents and their learning disabled adolescent compared to the same parents with nondisabled siblings; and (2) to discover which theory of role behavior within families is best supported.

Twenty-seven intact families participated. Each family contained a learning disabled adolescent who was receiving academic remediation in a private school designed for such students. The nondisabled siblings had attended or were attending regular educational programs. The majority of the population, from an affluent suburban area, considered themselves to be members of the upper middle class, were able to afford the private school's substantial tuition, and demonstrated the high degree of openness to psychological intervention the school demands.

The Pepitone board was utilized for studying interpersonal behaviors and the Simulated Family Activity Measurement was used as the observational system to quantify the role patterns. The statistical treatment employed to test the five hypotheses were t-tests and 2 x 2 x 2 ANOVA's.

The findings suggest the following conclusions:

1. Family members did not reveal role behaviors consistent with traditional sex-linked patterns.
2. There was significantly more authoritative behavior directed toward the learning disabled sibling as opposed to the nondisabled sibling. Also, the learning disabled female received the highest amount of authoritative behavior from the parents.
3. The learning disabled adolescent is the recipient of significantly more negative expressive behaviors from the parents.
4. The younger learning disabled adolescents received significantly fewer positive expressive behaviors from the parents.
5. Learning disabled adolescents, in particular the females, gave significantly more negative expressive behaviors to the parents.
6. Learning disabled adolescents, in particular the females, complied significantly more with parental demands than did their siblings.
7. The learning disabled population countermanded and/or ignored more parental demands than did their non-learning disabled siblings.

This research was conducted in partial fulfillment of the requirements for the doctor of philosophy degree at Temple University. □

Hill Top's Director of Counseling, James H. Fisher, M.Div., meets both informally and in regularly scheduled, reality based group counseling sessions with students.

Therapeutic Interventions
continued from page 1

- learning style
- special needs: academically, emotionally, socially, physically, behaviorally
- age, size, and sexual identity
- fatigue factor
- academic and vocation directions
- family considerations
- degree of maturity
- ability to express self
- previous school experience
- position on the developmental continuum in each content and skill area
- ability to tolerate frustration
- information acquisition threshold
- ego strength or defectiveness

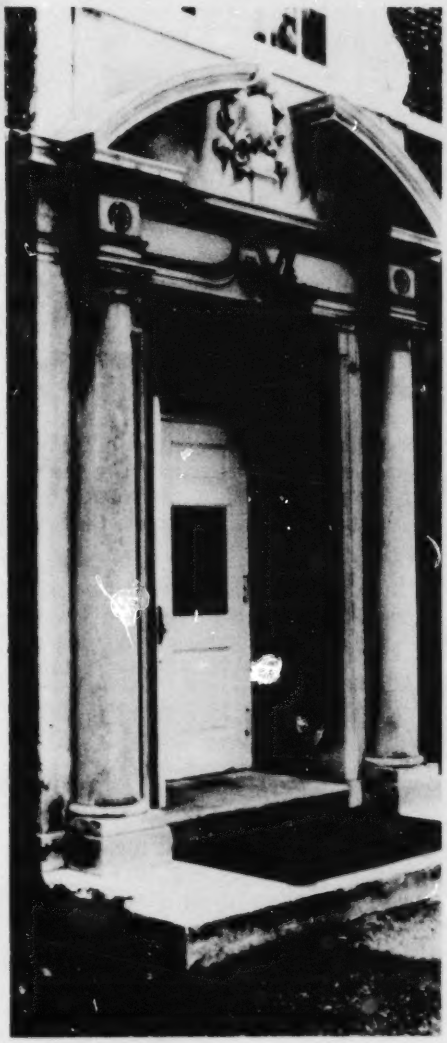
Watch carefully for indications of an auditory perception deficiency which is often missed because symptoms arising from it are attributed to improper causation, i.e., emotionality.

Appropriate programming, in general, dictates the following:

- placement at instructional level regardless of age with consideration of pertinent diagnostic factors and special needs
- placement in a class of not more than eight, preferably six students
- homogeneous grouping at least in regard to functioning level, if not specific disability
- the avoidance of assumptions about abilities and inabilities unless supported by diagnostic and empirical evidence
- allowance for differentiated placement in subjects and skill areas based on strengths and weaknesses
- the accommodation of rescheduling as the student progresses
- the opportunity to participate in elective and extracurricular activities to enhance self-image, socialization, and range of skills
- a perceptual diagnostic multi-disciplinary approach in which the student is seen as part of the team
- an exceedingly competent staff.

Once the student's general prescriptive program is designed, the educational therapist takes over in the classroom to refine the program in a manner that will effectively move the child along the developmental continuum. □

HILL TOP PREPARATORY SCHOOL



HILL TOP SPECTRUM
Vol. I No. 1 September, 1983

The Hill Top Preparatory School, Inc.

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Administrative Assistant
Patricia E. Hoffman

Spectrum is published quarterly by the professional development department of The Hill Top Preparatory School, Rosemont, PA 19010. Hill Top is a licensed, private, non profit, diploma granting secondary school for learning disabled adolescents.

To Introduce The Spectrum . . .

Dear Readers:

On the occasion of the publication of this first issue of the **Spectrum**, I'd like to introduce you to Hill Top, its purpose, history, current status, and future dream. In other words, I'd like to share with you some of the broad range of qualities and ideas, the various shades and hues, which form the spectrum which is Hill Top.

Attention to the unique learning and emotional needs of the learning disabled adolescent is a very recent focus of psychology, education, and medicine. Effective programs are still few and far between. The Hill Top Preparatory School is a pioneer in the habilitation of this special group of young people. Since September 1971 when Hill Top opened its doors, the program has reflected the dream of the founder, Elissa L. Fisher, Ed.M., to provide an environment where all aspects of the problems of the learning disabled adolescent could be treated.

After five years in various temporary quarters, Hill Top acquired a permanent home on a beautiful twenty-five acre campus in Rosemont, Pennsylvania, which allowed for a full range of clinical and academic services including laboratory sciences, a complete physical education program, and competitive sports.

Mrs. Fisher, with her husband, James H. Fisher, M.Div., Director of Counseling, and a dedicated clinical and academic staff, has designed a systems oriented program for learning disabled adolescents with several critical components. Limited size both in total school population and individual group size is a key factor. A reality based therapeutic approach, both academically and clinically, where students learn to cope with both failure and success is a core element. Students are provided an opportunity to understand their learning disability without being negatively labelled and to earn a high school diploma as a result of their efforts. A transitional college program is provided for those with academic potential who need more time to prepare for a full college load.

These critical components, established more than twelve years ago, are the foundation of the Hill Top program today. In addition, innovative programs such as the use of computers to teach metacognition, or learning how to learn, as well as strategies involving analytical skills and logical reasoning, are constantly being developed.

Over the years, the more than 150 students who have completed their secondary requirements and the more than twenty who have completed the transitional college program and their families will attest to the success of Hill Top's systems intervention for learning disabled adolescents. Approximately seventy-five percent of the graduates go on to college.

Hill Top staff conduct ongoing research and present papers at major conferences on learning disabilities. The school co-sponsors an annual conference on various aspects of learning disabilities and will soon inaugurate graduate level courses in cooperation with a major university.

Hill Top's dream for the future is to be able to deliver its program to more learning disabled adolescents, particularly those who cannot financially afford such an education, and to disseminate its service delivery and staff training models on a national basis. The Hill Top family, including staff, students, and Board, is committed to that dream.

Yours truly,
Patricia M. Bricklin, Ph.D.
Chair, Board of Directors

Conference Announcement

"Current Assessment Issues in Learning Disabilities" is the topic of the annual Hill Top conference, scheduled this year for November 18-19.

Michael Lewis, Ph.D., Chief of the Division of Child Development in the Department of Pediatrics at Rutgers Medical School will be the speaker at a Friday evening kick-off dinner.

On Saturday, a full day conference will take place on Hill Top's campus. In addition to Dr. Lewis, the presenters are **Jules Abrams, Ph.D.**, Professor and Director of the Division of Psychology, Hahnemann University: **Elissa Fisher, Ed.M.** Founder and Director, Hill Top Preparatory School: **Patricia Bricklin, Ph.D.**, Clinical Professor, Department of Mental Health Sciences, Hahnemann University; faculty, The Johns Hopkins University: **Leonard Graziani, M.D.**, Professor of Pediatrics, and Neurology, Jefferson Medical College of Thomas Jefferson University: and **Edgar Kenton, III, M.D.**, Chief, Division of Neurology, Lankenau Hospital; Professor of Neurology, Jefferson Medical College. □

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Computers Strengthen Metacognitive Abilities in the Learning Disabled

by June Miller White, Ph.D.; Valerie Sanford Denny, M.S.S.S.; and Linda Tyler Claiborne, B.S.

In the June, 1979, issue of *Plain Talk about Children with Learning Disabilities*, the National Institute of Mental Health pointed out that learning disabled children need to be taught how to learn. Learning how to learn is metacognition. It involves enabling the mind to search out patterns, to analyze and solve problems, to summarize results, to check conclusions and to establish associations. It involves learning strategies for receiving, processing, storing, and recalling information. It requires skills in self-questioning as well as awareness of failure. It is not just study skills. In an article appropriately titled "Metacognition or Taking Study Skills Out of the Closet" in the December, 1982, issue of *Basic Education*, Harriet Bernstein wrote:

> Study skills are blind training whereas metacognitive instruction teaches students to monitor their own comprehension, to understand the underlying purposes of various study methods, and to select an appropriate method independently.

In learning how to learn math, a metacognitive model is especially appropriate. Because mathematics makes extraordinary use of abstractions and studies what is true of hypothetical states of things, adolescents who have not learned to be analytical are at a disadvantage. Yet math is the subject whose topics do not have emotional overlays. This lack of emotionality is an advantage in teaching math to learning disabled.

Success in math requires that students learn how to learn. They must learn to be methodical, logical, meticulous, and patient. They must learn to organize information readily and pay close attention to detail. They must learn to develop understanding of the processes as the "new math" of twenty years ago emphasized. They must also learn to add, subtract, multiply, divide as the "back to basics" movement of ten years ago emphasized.

An effective way to achieve these goals and strategies is computer literacy, considered the fourth "R" in today's education. Although not new to this generation, access to the technology in our everyday lives is. There is no question that education must include work with computers

Many advantages of using computers with learning disabled adolescents are obvious.

- Computers are safe. Mistakes are expected and are ok. The learning disabled student can be in "error" and not feel stupid since everyone gets "error" messages from the computer, including the instructor.
- Computers lack emotionality. The words used to interact with a computer are uncontaminated. They carry no associative emotional content that can derail the brightest learning disabled person in other settings.
- Computers are predictable. The sequence is defined. Computers require one step at a time.
- Computers can individualize. Computers are infinitely patient and will wait for a response without glaring, without calling on another person, and without disapproval.
- Computers require specificity. This specific language usage is especially helpful for language impaired students and there are studies which suggest many learning disabled students have language deficits.

There is another important advantage with computers which is some-

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HILL TOP PREPARATORY SCHOOL

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A SYSTEMS APPROACH

Report Defines Group Therapy in an Academic Setting

by James H. Fisher, M.Div.

Understanding the model of a group therapy program within an academic setting requires knowledge of the organization of the groups, the objectives of the groups, and the actual happenings within the groups.

ORGANIZATION OF THE GROUPS

In the Hill Top model the groups meet twice weekly with a maximum of eight students in each group. Each group has a group leader, a teacher-therapist, and a consultant. The group leader is at least a master's level psychologist. The teacher-therapist is a classroom teacher expressing a special interest in being involved in the group sessions who brings the reality of the classroom into the group. The consultant is a clinical psychologist (Ph.D. level) or a psychiatrist who meets with the group once each week. In a typical group setting there will be eight students, two or three adults when the consultant is present. The group sessions are built into the student's schedule just as a content area would be.

There are several characteristics of group membership. First of all, the student membership of the groups is very heterogeneous. There are "old" Hill Top students mixed with "new" Hill Top students; male and female, verbal students with students who are not very verbal.

The information that is discussed in group is held confidential. Information comes out of group only when that information would be helpful to the other teachers working with the particular student, i.e. some new pedigogical information or some new way of working with the student.

In addition to the groups being confidential, the therapy model is reality oriented and focuses on three matters.

1. *The here and now of the student's life.* What is happening each day at the school; how are the students getting along in their classes; how are they getting along with their peer group; are there any difficulties with teachers? The group leaders are not psychoanalytically oriented in their approach to working with the students.
2. *Reality oriented therapy.* Group leaders emphasize that learning is sequential and consequential and that the student's words and actions will have a positive or negative effect on others as well as on themselves.
3. *Development of responsibility.* The reality oriented therapy helps develop the student's sense of responsibility in the literal sense of the word so he/she may be response-able to the situation in which he/she might find himself/herself.

The objectives of the therapy sessions are to develop communication skills in both cognitive and affective areas; to learn how to deal with authority figures in effective ways; and to develop a variety of problem-solving skills. Finally, the group therapy "should" help the students assume increasing responsibility for their learning and their behavior (including understanding and acceptance of his/her learning disability).

HAPPENINGS WITHIN THE GROUPS

In general, groups experience the normal cycle of group dynamic life. They go through four stages of group life: dependence, counterdependence, independence, interdependence. As the group life completes one cycle, it begins again as the members of the group work at a deeper level

of discovering and learning. In addition, each group member works out his/her relationship with the designated leaders of the group and with each peer member of the group.

The group agenda is formed from three different sources. The agenda can be made up by the leader of the group who has information about the student and how the student is functioning in the classroom. This information comes from the student's teachers. The student can add to the agenda if he/she wants to raise issues about the school, about other students, or about home matters. The general staff meets twice a week and discusses, in some depth, the academic and behavioral performance of students. Frequently recommendations are made and suggestions are offered to take back to the group.

While at Hill Top students pass through twelve stages in reaching what is termed "individuation and congruency."

The **first stage** is the facade stage. This occurs when the student first enters the school and, in some cases, has his/her first experience with group therapy. The student wants to appear "cool" and "with it" and frequently acts as if he/she understands everything that is happening.

The **second stage** is learning how to communicate honestly, to state the situations in school or out of school accurately and not the way he/she wants them to be.

Stage three is discovering integrity in interpersonal relationships. When hearing a member speak, the other members of the group are very conscious of whether or not the story is honest or blown out of proportion. They give feedback to the student who is on the "hot seat." The information must be honest and must be meant to be helpful. No one in the group is allowed to make any "put down" statements. The "hot seat" person slowly begins to realize that he/she is really cared for in these conversations, as uncomfortable as it may be.

Stage four is the time when the student begins to have his/her learning disability labeled. The *disability* gets labeled and not the person. The disability is discussed and labeled as receptive, integrative, expressive, or diffuse. The student learns it is okay at Hill Top to have a learning disability. After all, it is the only way one can get into the school.

Stage five is the act of denial on the part of the group member that he/she has a disability. Students frequently say that in their other schools their classes were too large and that is why they did not like the school. They tend to blame the teachers for their failures. They will come up with other excuses to keep the focus away from themselves and thus maintain the denial of anything wrong with themselves. Often the students are told, "If you could have, you would have, but you didn't, so you can't."

Following this act of denial, the student enters **stage six,** which is *avoidance* or trying to avoid any discussion of the learning disability. This is much like denying the learning disability, but it includes an active role of not wanting to talk about it and, somehow, maybe magically, the learning disability will go away. Many times, the student will announce in group that he/she is not going to talk. The student is then encouraged to discuss why he/she doesn't want to talk about the disability.

Stage seven is a stage of depression. The group by this time has touched on not only the learning disability but also some negative feelings surrounding it. The person in the "hot seat" works mightily to keep those bruised and hurt feelings inside so they are not exposed and re-experienced.

Stage eight is the surfacing of fear; fear of what will happen if the anger and the frustration and the pain and the sadness all come out. The student believes and feels that no one else has these kinds of feelings and if they are expressed, somehow, they will not be accepted. The student, when reflecting on this phase, talks about the fear of going crazy and losing contact with life as he/she has known it, feeling that nothing could ever be right again.

Stage nine is that of sadness and grieving when the student finally does get in touch with the feelings of his/her defectiveness. It becomes important to allow those feelings to wash over the student, to express them unashamedly. Through his/her perceptions and others' meanness over the years, the student has managed to accumulate much emotional "garbage." These feelings need to be expressed if they are ever going to be replaced with healthier feelings and attitudes.

Stage ten is the integration of the student's own defectiveness. The learning disability is finally accepted on an emotional level. The student now realizes that he/she just happens to have a particular kind of learning disability and it is accepted. At the same time, students realize that they are okay as persons. This is something very different from anything they have experienced before. Previously, because of the disability, they thought they were disabled people. Sometimes the group leader uses the analogy with the students that it is much like having a broken arm. If you think your arm is broken, you go to the doctor and he/she checks it, takes an x-ray, finds that it is broken, sets the bone, and puts a cast on the arm. You carry the arm in a sling for a short time. Once it heals, you take off the sling and no one ever need know that the arm was broken unless you tell them. The students do not need to spend a lot of energy hiding the LD or avoiding it.

Stage eleven is that time when the students begin to feel as if they are normal. They can be like anyone else who is normal and do normal things. They have learned through group and through their academic classes how to function successfully in the classroom and outside the classroom.

In the final stage, **stage twelve**, the students begin to realize their true potential and they strike out to achieve it with confidence, compensatory skills, and certainty.

It takes, on the average, eighteen to twenty-four months for a student to pass through these twelve stages. It is the unique combination of academic classwork and group therapy that allows these young people to gain a new lease on life. The clinical program at Hill Top does not operate separately from the academic. It is an integral part of the student's development. Most of the students would not make the academic progress they do if it were not for the group therapy sessions. □

James H. Fisher, a co-founder of Hill Top, serves as Director of Counseling.

Dyslexic Student Improves Writing Skills, Confidence with Aid of Word Processor

by Valarie M. Arms, Ph.D.

Rick: Can I talk to you?
Me: I have to finish writing this paper. Can you come back at 3?
Rick: Why don't you write a paper about dyslexia?
Me: I don't know as much about dyslexia as I do about computers and composition.
Rick: You know enough—you got me to write a hundred page report.
Me: Will you come back at 3?
Rick: Will you write the paper?

Obviously Rick won that argument because you are reading "the paper" he wanted me to write. I discovered Rick is a very determined person: he wanted me to write about how I used the computer to help him overcome writing problems so that other people could benefit from his experience. He bribed me by offering to write his own paper. He knew I would want him to write it because I believe the writer should be motivated. If he was willing, I should be, too. I agreed and when he brought me two pages describing his feelings, I was so moved at the depth of despair I had only glimpsed, that I kept the bargain.

Rick and I met when he was a junior at Drexel University. As a civil engineering major, he had not had to grapple with his severe dyslexia on many writing assignments. However, he was required to take Technical Writing and the senior design sequence which required several papers with a minimum length of ten pages each. For Rick,

> The prossevs of writing is easey to the point where the idease must be put down on paper for outhers to read. It is the macanicaltask of spelling and the slowness of this prosses that leades to total disspare. Because so much efferd is put into picking the wordes that are sumwhat spellble and then drawing them on paper, though trans are lost to frustration.

His frustration at losing a train of thought because of his inability to transpose it to a page had brought him "to the point of total debilitation and thoughts of self distrubtion." His determination to graduate brought him to me. I had just instituted a word processing lab for an experimental section of Technical Writing. I had been researching the impact of computer based instruction in general because I wanted to harness the energy students expended on debugging programs for "debugging" writing—i.e. "revising." Several studies of various computer projects across the country had proven that "students who were taught on computers developed very positive attitudes toward the computer and positive attitudes toward the courses they were taking. Finally, the computer reduced substantially the amount of time that students needed for learning." (1) Since my engineering students had already taken a required programming course, I reasoned that their knowledge of computers, their love of electronic gadgetry, and their need to compose—proposals, reports, letters on the job—ought to meld in a word processing lab. The lab segments the composing process: an invention programs asks questions students should consider when prewriting, i.e. planning their purpose and organization; a format program directs them to type their ideas without regard for spelling, grammar, or even layout on the page; a revision program suggests they reconsider their answers to the invention program to see if the actual paper meets their objectives and it reminds them to proofread for errors in spelling and grammar.

Fortunately, Rick enjoyed working with computers. In fact, he was building his own Zenith computer from Heathkit. But he lacked confidence in his ability to write based on years of bad experiences. He had started my class in technical writing in his junior year; he finished it in his senior year. As a junior, he sat through the course and made an outstanding oral presentation with dual slide projectors and a synchronized tape. Although I had the lab set up, Rick was too conditioned by bad writing experience over the years to expose his frustration in a public environment. At best he could only sustain a writing session for fifteen minutes before an unbearable tension had him pacing the floor. By the beginning of the senior year, Rick had finished building his personal computer and become adept at manipulating its word processing software, so he now had a tool at his disposal twenty four hours a day in a private setting. He did not type well, but at least he reversed fewer letters typing than writing by hand. He also had quite an interest in a databased management project that he had worked on during his cooperative employment in the summer. With the tool, the intellectual ability and the interest, it was only a matter of building confidence in order for Rick to mature as a writer.

> The first session at the word prosser went very slow but it
> did work. Some things became apperent very quikly. Though I
> do not type, I am faster typing then writing by hand. Becouse
> of not beieng able to scrible wordes on the crt, thouse there
> were grose misspelling I and other people had less truble
> reading what haded sad. The extra speed ganed on the Wp, helped in keeping the
> flow and logic to the paper.

Dyslexia does not affect the ability to think, to reason logically, to conceive of an idea; but it does affect the ability to read and to mechanically represent an idea. I had insisted that Rick try to write in class for the first essay exam; the physical effort of putting the words in a blue book noticeably tired him. When I tried to read his essay, I found that his handwriting deteriorated so rapidly that only the first few lines were comprehensible. Even worse was seeing Rick's frustration at not being able to keep his failing handwriting in tune to his racing thoughts. I never asked him to write under a time limit again. Although it would be almost two years before I read Rick's personal account, I could not bear to see his agile mind so impeded. I counted on him to spark discussion and to create oral presentations in lieu of writing in class or meeting deadlines.

Having the computer to compensate for his handwriting problems was not sufficient to ease his despair at having to write a long paper. Rick's pattern of composing had been formed through earlier bad experiences. For example, he had composed on a dictaphone.

> In order to avoide puting woreds onto paper a dictonfone workes sumwhat ok but makes editing difclut. The use of a dictonfone also ties you to a persion will to type from the tape. This type of writing worked for a short paper that were two to three pages long but was time comesuming a day a page of writing and 2 to 3 days of procrasting per page. After a year of trying to write a 20 page paper that is a requirement for my engnering degre my back was to the wall. In a last dich efford to breing a fue pages of the paper to the preferser I sat down with the dicphone. After five minites the dictaphone gamed and I was harphied.

Obviously, I had a bright student who enjoyed working with computers and who dreaded writing to a point I had never before witnessed. I had some experience at dealing with writing problems, though.

For years I had been teaching freshman composition with Ken Macrorie's *Telling Writing* because I agree with Macrorie. (2) Students get so "hung up" about spelling and grammar in school that they lose their childhood ability to tell a story in their own voice. Macrorie has students "free write," write nonstop without regard to spelling, grammar, or even coherence, to break their barriers. After an essay has taken shape, perhaps an idea from a free writing which the student has developed with specific examples, comparisons, or whatever is appropriate, the student reads it aloud to a peer group for comments. He then revises the essay in light of the comments and any further insight he might have. Finally, he proofreads to correct spelling and grammar—which provides the necessary but last step for a polished essay.

Having worked with manuscripts of well known authors, I could assure Rick that the great writers were no better at spelling than the majority of my students. They did have two advantages: (1) they approached composing as a process of prewriting, writing, and revising; (2) they had good copy editors. If he would agree to follow the process, I would agree to let him have a copy editor. Our bargain was struck and we began prewriting.

Prewriting means thinking about the purpose of the paper, selecting its organization, style, and tone in light of a clearly defined audience. For Rick, prewriting was easy because he could conceptualize what he wanted to do clearly. Prewriting did not involve physically writing, at first, since we talked about it. As he became comfortable with the topic, Rick would go to the computer and enter a brief outline. Each week he would bring in the outline and we would flush it out verbally. All misspelled. In prewriting, the goal is to create the paper, not to create it grammatically perfect; I did not correct or comment on the spelling.

Linda T. Claiborne, Hill Top's computer science instructor, guides students in an advanced computer class through a programming task. Class size is limited to permit maximum hands-on time and individualized instruction.

The writing stage should be getting a flow of words on the page. For Rick, the page was the CRT (the screen) of his computer or WP (word processor).

> Most of the writing sestion on the wp last about 45 min
> to 1.5 hrs. in this time i will write 1 to 2 screen (24
> lines per screen) and read the last writing sestion work.
> The proses of editing for continneity and kality is don
> in starting of each writing session. By reading the
> prevesly writen miltaly at the start of each writing
> sesion most of the paper has been rework sealye times
> when the first draph is finished.
>
> This anishal stage of prediting has serval benif first most left out warder are found and incerted, some of the groustest misspellings are retryed and flow of ideis are enhands. With continue use of the wp my typing ability increes to the point where at times thought flowed at the same speed as i was typing. This realzation was astoning for the first time in my life i was not thing about spelling.

Since the writing stage is meant to produce the words that will be revised later by the writer, the editor, and, the copy editor, I assured Rick he was working like a professional.

Rick had stopped procrastinating because the composing process required him to begin far in advance of any deadline. His love of electronic gadgetry also helped since he was drawn to the computer. Rick could handle short sessions with the computer, even entering text for longer periods than he could using pen and paper. Since the computer offered him what he called "a window on my ideas," he worked on disjointed sections because he could later manipulate them in any order. Thus, he could type without loss of meaning because of illegible handwriting and he could concentrate until an idea tired him, then switch to another section. From his former composing speed of about 1 word per minute, he has advanced to approximately 4.2 words per minute. At his old speed, the 5,000 word seminar paper and the design reports of 15,000 words required in his senior year would have meant 500 hours writing.

The third stage of the composing process, revision means literally "to see again." Rick could handle re-vising because he normally thinks in visuals. He

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To Submit Articles . . .

Persons wishing to submit articles for consideration in future issues of **Spectrum** should send two typed, double-spaced copies of their manuscript to:

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Rosemont, PA 19010

A brief resume of relevant professional experience should also be included. □

A Hill Top senior practices his word processing skills.

Learning how to learn is a significant by-product of computer education at Hill Top.

Computers Strengthen Metacognition
continued from page 1

times overlooked. Computers encourage a metacognitive style of instruction. Computers help students to think and to be analytical. Writing a program for a computer requires students to "teach" it as they would a peer who has no knowledge until given each piece in the proper sequence. Metacognition, learning how to learn, is greatly assisted by learning to write simple programs for the computer. The student is forced to be logical. Each step in the process must be identified and isolated. The language must be specific and the sequence must be carefully developed. A student cannot "con" or "charm" or "intimidate" a computer. When errors are made students are forced to correct their own work. They learn to monitor and evaluate their own learning. If something goes wrong every single piece of data may have to be rechecked.

In the Hill Top Model, goals for students center on recognition and understanding and not merely on the reproduction of computer busywork. Metacognitive instruction is at the core of the academic program at Hill Top Preparatory School. Through computer math and science courses, students look at how learning takes place. They begin identifying strategies for learning.

For many students, math has been a series of failures. Many are not only verbally, perceptually, or visually learning disabled, but mathematically learning disabled as well. A student's academic skills, as well as social skills, are partially dependent on the growth of the student's powers of representation. Learning disabled students often do not have these powers of representation.

Mathematics offers a multitude of variables from which a student can draw in order to label and represent unknowns and changes in his life. Many students lack this open "grab bag" of x's and y's, so the WHY'S are left unanswered or unasked. Mathematically or logically assigning constraints to a problem situation is not and can not be done. The student has not learned how to learn. The child can not label the region that requires the constraints.

At Hill Top, our goal is to have students be learners as well as teachers, to understand, recognize, and teach each other the how's, the x's and the why's. With this goal of metacognition, it is necessary for the student to deal not just with one image or variable in a situation, but with the properties and features of several complicating factors simultaneously. This manipulation bridges the very large gap between what children conventionally do and what they are capable of doing. Harriet Bernstein continued her previously mentioned article by writing:

> Much of present-day teaching goes in one ear and out the other because children lack the key to managing their own amazing mental processes. The stuff of metacognitive instruction—awareness of failure, searching for main ideas, self-questioning, predicting, summarizing, checking, and problem-solving—is an attempt to teach explicitly concepts that traditionally have not been taught.

Managing and organizing then are the keys. Teaching a computer to carry out instruction touches the base of a metacognitive pyramid since the computer is "dumb."

Presently, Hill Top students interact with the computer in pre-algebra, introductory computer science, advanced computer science, and astrophysics. The overall goals for each of these students are:

- an understanding of the programming language,
- an efficient use of computer time,
- an appreciation of the interrelationships of math terms, symbols, and concepts with programming concepts,
- a development of logical, sequential thinking processes.

In addition to achieving the educational goals, there is another striking benefit. Managing and organizing leisure time is also helped by computer literacy. For many learning disabled students, free time is empty time.

The construction of computer programs not only serves as a learning experience, but offers an ego boost and a leisure time activity.

As students develop their own programs for a computer, they learn how to learn. They learn to follow instructions and to sustain their focus. They learn to pay close attention to detail, to organize their own work, and to interact with and attend to responses from something else.

Students also learn if the program does not work, they must try another way, something many learning disabled students have not done before. With computers the first run is expected to have an error. Students learn to go beyond failures to successes which permit more failures. They write a program and run it. If it does not work, they try another way. Each time they run the program, they get fewer errors until the program is successful. It is this risk of failure which encourages them to be more aggressive about their learning. They learn to *overcome* failure, rather than being immobilized by it.

Many learning disabled adolescents demonstrate average or above average cognitive skills. They want to learn and they have high motivation if they perceive success as possible. Computers can provide the bridge for learning disabled to change from poor academic performers to masters of their own learning. Writing programs for a computer

- helps a student who has failed to achieve,
- helps a student who would rather be "bad" than "dumb" be appropriate,
- helps an awkward and clumsy child to practice coordination skills,
- helps a student who focuses his attention on too many things to sustain his focus on one thing,
- helps a student who cannot picture things in his/her mind to develop a visual image,
- requires a student who skips words to use specific language,
- requires a disordered, disorganized student to organize, and
- requires a student who has difficulty dealing with alternatives to permit failures and to try another approach.

But most of all, writing programs for a computer provides a way for learning disabled adolescents to learn how to learn by requiring them to be logical and sequential, to analyze, to self-question, and to monitor their own learning. Through successful computer work learning disabled adolescents develop career options and self esteem. Hill Top's graduated students are out in the field now. Some are concentrating on computer-based courses of study, some are in science-math higher education, and some are in business and job situations demanding this literacy. These former students continue teaching, learning, and learning how to learn. Through writing programs for the computer they learn strategies for becoming responsible for their own learning. □

Valerie S. Denny is Hill Top's Curriculum Coordinator and chairperson of the Math Department. Linda T. Claiborne teaches math and computer science at Hill Top.

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Dyslexic Student Improves Writing
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could picture sections of the paper better than he would read them, but he learned to do both. He revised the paper for content, style, and tone, but not for spelling. I wanted him to focus on substance not appearance.

When Rick is satisfied with the content of the paper, then and only then, is he allowed to be concerned about spelling and grammar. His copy editor, a friend who also likes computers, uses the computer's dictionary to help her correct his misspellings. She also checks punctuation.

By putting the cosmetic details in the right place, the final revision not the initial stages of composing, Rick is free to express his creativity. Having learned a good process of composition, he no longer needs me. Our weekly conferences led to the completion of all the required senior papers which exceeded the minimum requirement; Rick wrote approximately twenty five thousands words in two hundred hours of his senior year: the seminar report, incidentally, was the basis for an oral presentation for civil engineering. Rick did so well that he was asked to participate in the student contest for the Philadelphia branch of the American Society for Civil Engineers and he won.

The computer helped Rick win the battle of writing. His gross misspellings would drive a copy editor to despair if they were not easy to correct. With word processing, the copy editor can simply overstrike a letter, or use "character insert" or delete keys to make corrections. Because the text is typed it is legible, and because it is on a computer, it is easily manipulated. The writing is the mechanical step which boggles the dyslexic yet it is only a minor contributor to the quality of good presentation.

For someone of Rick's intellect, the computer offers a mechanical aid that lets us see the pictures in his mind. □

NOTES

(1) James A. Kulik, et.al., "Effects of Computer-Based Teaching on Secondary School Students" *Journal of Educational Psychology* 1983 Vol. 75, No. 1, 19-26.

(2) Ken Macrorie, *Telling Writing* (Rochelle Park, NJ: Hayden Book Co., 1980)

Valarie M. Arms is Associate Professor in the Department of Humanities and Communication, Drexel University.

Summer Institute Announcement

"An Irreverent Look at Mathematics and a Serious Program for Mathematics Education of the Learning Disabled Student," a one week institute, will be offered in the summer of 1984 at Hill Top Preparatory School.

Led by an instructional team consisting of Patricia M. Bricklin, Ph.D.; Elissa L. Fisher, Ed.M.; June M. White Ph.D., and James H. Fisher, M.Div., participants will examine elements to be considered in creating a substantive math program for learning disabled students.

Topics to be considered include: Knowing Your Students, Your Subjects and Your Goals; Developing an Effective Program; Providing a Real Learning Environment; Acquiring Successful Techniques; and Adapting Others' Successes To Fit Your Situation.

Qualified candidates successfully completing the course will receive graduate credit. Watch future issues of **Spectrum** for details. □

Hill Top, Johns Hopkins Offer "Systems Approach" Minicourse

A two day minicourse, *"A Systems Approach for Designing Strategic Interventions in Educating and Treating the Learning Disabled Adolescent,"* will be held April 27-28, 1984 at The Hill Top Preparatory School. The course is co-sponsored by Hill Top and the Evening College and Summer Session of The Johns Hopkins University.

Targeted to teachers, administrators, and counselors, emphasis will be on utilizing a systems approach, including educational and clinical considerations, as a conceptual base in developing educational strategies for the learning disabled adolescent. Intervention strategies which will help students remediate and compensate for their disabilities will be explored. Special attention will be given to developing special skills and procedures which can be used in the individual participant's professional setting.

The course will provide for classroom observation of Hill Top's model program, structured dialogue with teaching and clinical staff members, and didactic presentations by an instructional team comprised of Patricia M. Bricklin, Ph.D., a member of Hopkins Evening College Faculty; and Hill Top administrators, Elissa L. Fisher, Ed.M., Director; James H. Fisher, M. Div., Director of Counseling; and Moss A. Jackson, Ph.D., Chief Clinical Consultant.

Participants with an M.A. degree or those enrolled in an approved graduate program, upon successful completion of a final written project and submission of an official transcript, may be eligible for one graduate credit through The Johns Hopkins University.

For information about the course, contact Ann Denny at Hill Top. □

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Constructing a Diagnostic Picture from Psychometric Data

by Janet Hoopes, Ph.D

A psychological report to be useful must provide more than numbers and broad generalities. The description of the subject should be as specific as possible and the recommendations should be so phrased that the educator can pick up this report and plan educational strategies from it. With the advent of PL94-142 and the requirement for an Individualized Educational Plan for a special education child, psychologists have had to examine more carefully both the diagnostic battery which they employ and the recommendations which they make. Although the teacher or educational specialist writes the IEP, it is difficult to do so if the diagnostic data they have requested—namely the psychological, the psychiatric and/or neurological evaluations—do not enable them to plan and use educational materials specifically and effectively.

There are two approaches to diagnostic material which may be used to assess the adolescent. The first has been called the norm referenced approach. Here one uses the psychometric measures and scores to compare the child with others in his/her normative group. Data from this type of reporting is important primarily to determine whether the child deviates significantly from the normative control. The difficulty with this is that once one has determined the deviance, it often does not lead the diagnostician to fruitful suggestions for remediation.

The second has been variously called the ideographic approach (Allport, 1937), criterion referenced approach (Carver, 1974) or in Mischel's (1977) terms, the person-centered analysis. This diagnostic approach attempts to describe the individual adolescent in relation to his/her specific strengths or weaknesses. In essence, it is an intra-individual description and leaves aside for the moment the inter-individual comparison obtained from the norm referenced approach. Psychologists have often ignored this latter approach to assessment although in the last five years they have undoubtedly expanded their diagnostic efforts to encompass this approach.

Person Centered Approach

The focus of this article is the use of the latter approach for obtaining a more detailed description of the adolescent specifically the learning disabled child, so that the educator can take this data and construct an educational plan. Labels such as learning disability do not reflect pure diagnostic categories and there is considerable overlap between how one would proceed with the learning disabled adolescent and how one would proceed with the socially/emotionally disturbed child, or even the retarded or gifted child. To construct a diagnostic picture from the psychometric data to enable the educator to plan the educational program, the psychologist and educator should work hand in hand. In fact, the written report in and of itself is sometimes not satisfactory; there needs to be dialogue between the psychologist and educator so that each understands the other in terms of psychological findings and educational strategies which might be employed.

We are bound today by the Federal Guidelines which define learning disability as:

> a deficiency in the acquisition of basic learning skills, including but not limited to, the ability to reason, think, read, write, spell or do mathematical calculations as identified by an educational and psychological evaluation. Persons who have learning disorders which are primarily the result of visual, hearing or other handicaps, mental retardation emotional factors or environmental disadvantages, are not learning disabled. The term learning disability does not exclude the possibility that a learning disabled person may also exhibit such conditions as brain damage or minimal brain dysfunction. (Pennsylvania Bulletin, 1977)

continued on page 2

The current literature and research point to a substantive brain-behavior correlation in most learning disabled children who fall within the narrow range of this definition (Rourke, 1975). Sometimes neurological signs are minor or non-existent given the instruments which we now possess. A battery such as the Halstead Reitan indeed offers promise for a greater specificity of diagnosis of the brain-behavior correlates. The overlay of emotional factors, educational mismatches and problems in management within the family and school contribute to a very complex diagnostic picture. The psychologist when faced with a referral from the teacher has the difficult task of sorting out the primary etiologies and prescribing the most effective remediation.

When the psychologist begins the diagnostic procedure, he/she is unable to know with any certainty from the referral material which of the many possible etiologies are causing the problem at hand. For example, if the teacher indicates that Johnny is not learning to read at the same pace as his first grade peers, seems unable to comprehend directions, moves from one task to the next without long attention span, etc., one is not clear whether Johnny is retarded, emotionally disturbed, learning disabled or perhaps reacting to a situational temporary disturbance at home, or even to teacher expectations which are inappropriate for his age and grade.

Wide Band to Narrow Band Assessment

It seems important that the psychologist begin the assessment with "wide band" procedures. This is a term used by Cronbach and Glesser in their book *Psychological Tests and Personnel Decisions* (1965). Although this material is written specifically for personnel selection, it has validity for the psychologist facing the child with undetermined or unknown causes for behavior. Cronbach and Glesser state that band width, or breadth of coverage, is achieved at the cost of lowered fidelity or dependability of information. If one begins with a wide band type of assessment, one loses certain information and efficiency which might have been gained if the psychologist were able to begin with very specific measures of the child's difficulty. However, since one

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Ecological Assessment Model Considers Behavior, Environment

by Patricia M. Bricklin, Ph.D.

In our consideration of the adolescent with learning disabilities, we have recently begun to move away from an individual centered disability model to a service delivery model which focuses on reciprocal person/environment interactions. In this model, a child's development and education are viewed from a dynamic ecological perspective which acknowledges the mutual interdependence between an individual's behavior and the environment in which it occurs and offers interventions at the points of discord in the system.

In brief, the child is viewed as a developing organism with needs, drives, temperament, physiological conditions, etc., who interacts with external forces, important others, physical environments, rules, educational systems, etc., is changed by them and in turn changes them in a *continuous reciprocal interaction*. These interactive effects are particularly significant in the young person with learning disabilities because they influence not only the nature and severity of the learning disability itself and the way in which it manifests itself, but also the perceptions and expectations of the adolescent about him/herself as well as the perceptions and expectations of important others about him/her.

While lip service is given to interaction effects in many theoretical systems, assessment and intervention in these systems are usually focused almost exclusively on the adolescent with the problem. In an ecological model, however, assessment is directed at locating the points of interactive discord between the young person and the various settings in which he/she finds him/herself (school, home, etc.). These settings comprise the child's ecosystem. When the points of discord have been located, appropriate interventions can be planned with the awareness that any single intervention changes the entire system.

An intervention may be aimed at one or more of the following: 1) changing the child; 2) changing the environment; 3) changing the perceptions, attitudes and expectations of important others toward the child; 4) changing the child's perceptions, attitudes and expectations towards him/herself and the situation. Thus, the goal of ecological intervention is to restore the child's ecosystem to its own productive equilibrium.

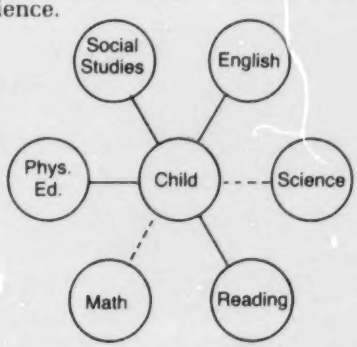
In an ecological assessment, the professional tries to understand the network of interrelationships among individuals and settings in the adolescent's total ecosystem. When all of the data has been gathered, the focus of treatment may be on the individual or it may be on the other interactive elements, but always emphasizes the individual as part of a system. The goal is not just to change the adolescent, but to make the system function in a way that enhances the development and well being of all its members. An ecological assessment looks not only for weaknesses, but also for the strengths of an ecosystem.

Specifically, an ecological assessment includes the following elements. Information is gathered from all of the environments in which the adolescent spends time. This information is utilized to develop a picture of the entire system defined by the existence of the adolescent. Efforts are made to locate the points of discord as well as the points of accord in the system. Data is gathered from settings in which the problem is noticeable, from settings where it is not noticeable, as well as data on the perception of the problem by the adolescent and others. For example, the adolescent's perception of his/her learning disability may be "I'm dumb and that's why I don't understand what I read." A parent or teacher's perception may be "If he/she would try harder, he/she could do it." The differing perceptions create a possible point of interactive discord.

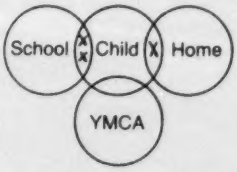
Even if the learning disability itself is intrinsic to the adolescent, we make every effort from an ecological perspective to locate the patterns of

interaction which may be seriously exacerbating it. These usually center around those interactive points which unintentionally are maintaining the adolescent's view of him/herself as a "nonlearner." In this connection, the unique learning style of the adolescent as it interacts with unique teaching and parenting styles must be considered. It is important to assess school/classroom climate, pupil/teacher interaction, peer relationships, pupil/curricular match and family climate and interactions.

In addition to tests and other more traditional methods of evaluation, a process called "eco mapping" is an extremely valuable tool when conducting an ecological assessment. Briefly, "maps" are created which visually represent the adolescent's ecosystem or some part of it. The purpose of mapping is to graphically assist in the location of points of accord and discord in the system. Maps can be done in many ways. The following represents a map of an eighth grader's current school experience where a dotted line represents difficulty in that class and a straight line a successful class experience.



The map was constructed by the teaching team as they discussed the child. It became clear that Math and Science were the places where the child experienced difficulty. Further discussion located the critical similarities in these two classes which contributed to the child's difficulty and appropriate changes made. The following represents a simple map of the major settings of an ecosystem where X represents the located points of discord.



Ecomapping as an assessment tool may be used jointly by a family, adolescent and clinician to get a view of the total situation and develop some pattern and structure. It helps to organize data, locate where more information is needed and to "see" the situation in a new way. Mapping is a useful communication tool and a graphic way to represent changes in a system over time (i.e. a series of ecomaps completed at the beginning of various points during remediation and treatment).

In summary, a dynamic ecological perspective is useful as an overall contextual frame when assessing and planning for the adolescent with learning disabilities. Assessment tools such as "eco mapping" help us to maintain the overall interactive systems perspective and direct our attention to the possibilities for intervention at the key points of interactive discord which may involve a change in the adolescent, a change in the setting or a change in the perceptions of those in the system. Ecological assessment and intervention allows us to locate and utilize the natural strengths of the adolescent's ecosystem as major problem-solving resources to restore the system to its own equilibrium. □

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HILL TOP PREPARATORY SCHOOL

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Educational/Practical Assessments: A Guide for Classroom Techniques

by Elissa L. Fisher, Ed. M

The educational assessment of the learning disabied must be a continuous dynamic process reflective of a sound philosophy concerning the etiology of learning disabilities, their manifestions, and the potential of the individual, which views the child holistically and has as its goal pedagogic procedures that allow for the greatest remediation and compensation possible.

There appears to be currently two broad basic philosophies prevalent in regard to the education of the learning disabled. The first, widely held in public education circles and some private education sectors, is that the best method of educating these students is to assess what the child cannot do, then simply adjust the expectations and environment so that the child is not required to use deficient skills. Get them through the secondary program. Give them a diploma and send them on their way. The result for the child in this approach is often learned helplessness.

The second philosophy holds that the best way to educate the learning disabled is to assess what the child cannot do along with what he/she can do. Then with as much knowledge as can be gathered, an individual perscriptive program is designed that provides a treatment model enabling the child to develop strengths to their maximum and to remediate and/or compensate for weaknesses in such a manner that he/she can adapt to any environment. Although more time consuming, demanding, and expensive, it is the philosophy on which Hill Top is founded.

We begin with the assumption that a comprehensive, multi-disciplinary assessment is crucial in order to have the necessary information to prescribe for the full range of each child's needs. Therefore, the educational assessment per se is only a part of the multi-faceted diagnosis.

The process begins with a thorough psychological evaluation which includes a Wechsler, a Bender Gestalt, a Rorshach and other tests deemed necessary to give a complete psychological view of the subject and his/her functioning. Once completed, the information is reviewed along with data from an extended interview with the child and parents, previous school records, reports from all professionals who have dealt with the child and a developmental case history. Attention is given to gaps in information, shallow assessment, weak assumptions and undocumented diagnoses. At this point additional testing may be recommended in auditory, visual, neurological, language or neuro-psychological areas.

The next step is a standardized norm-referenced test in order to 1) give a global picture of the student's performance in relation to that of a representative sample of peers; 2) eliminate areas that need no further probing; and 3) pinpoint levels at which criterion-referenced or informal diagnostic testing should begin.

The instrument we prefer is the Stanford Achievement Battery because of the quality of its content, its clean-cut layout, its broad coverage of content areas, its range of skill assessment, and its careful attention to grade leveling and percentile reporting.

At the same sitting, a writing sample is taken in the form of a paragraph constructed in response to a topical question asked by the clinician. This gives information about handwriting, organizational ability in a written context, orientation to page, appreciation of paragraph structure, grammar, capitalization, punctuation, spelling, expressive ability and skill in meeting the meaning of the question asked.

After scoring the Stanford Battery, an item analysis is done for each subtest which provides a picture of the pattern of response, attack methods, fatigue factor, and strengths and weaknesses in content and skill. Parts or all of the Detroit Test of Learning Aptitude follow. These subtests prove very useful in exploring various mental factors involved in learning situations. The Verbal Absurdities subtest is of special use in determining a child's ability to image—a skill that is poor to non-existent in many learning disabled children. This inability hampers students at every level of learning, especially in regard to memory.

Decisions are then made regarding the need for criterion referenced or informal assessment procedures—i.e., an Informal Reading Inventory, Daniels Word Recognition Test, Betts-Arey Spelling Inventory, and/or Key Math. Because these tests measure a student's performance in terms of specific curriculum objectives, a more complete picture of strengths and weaknesses emerges.

The greatest value of the informal or criterion referenced testing is it allows the clinician to look at the attack method, thinking process, Piagetian developmental levels, and expressive behaviors in process. Such evaluation also permits the clinician to assess whether the child is able to learn through the testing procedure—a skill frequently deficient in the learning disabled.

All of this material provides the foundation for the classroom diagnosis which covers a formal initial two week period in each subject, but in reality is on-going. The purpose is to determine under what conditions the student is able to learn and to assess what conditions inhibit the child's learning. This is accomplished through the use of three techniques: 1) the protocol analysis, 2) trial teaching, and 3) adjusted environmental condition sequence.

All three techniques rely upon the sensitivity, intelligence, training, and skill of the diagnostician. They involve an understanding of both task and learner analysis, and make heavy demands on the teaching experience and methodological repertoire of the evaluator. A teacher experienced in teaching students with learning disabilities is the most appropriate evaluator.

In protocol analysis, the diagnostic teacher examines carefully exactly what the child is doing in a given activity. Interpretation temporarily takes a back seat in that the data is allowed to speak for itself. As Farnham-Diggary describes it, "When you begin to pay close attention to the fine details of a child's learning style and behavior, you find yourself saying, 'Aha, that might be the problem, and this teaching strategy might help.'" Remedial and compensatory ideas are generated automatically.

The second technique, trial teaching, provides the opportunity for the diagnostic teacher in a natural setting to

present skills and/or content in different ways, using varied materials, with emphasis on one or more modalities, using a variety of sequencing, segmenting and pacing to ascertain how the child learns best. Anecdotal records are kept to guide the design of techniques and strategies for future use.

Finally, the third classroom diagnostic technique is the adjusted environmental condition sequence. While a child may do reasonably well in a particular skill in a one-to-one or tutorial setting, it is frequently found that learning disabled children do not perform nearly as well when placed in a classroom setting where extraneous interferences are less likely to be controlled. During this assessment phase, the diagnostic teacher adjusts the conditions in regard to seating, conversation, orientation to chalkboard and lighting as well as the social atmosphere to determine which factors are enhancers and which are inhibitors in the child's learning process. This allows the teacher to adjust those factors that can realistically be changed and to help the child learn to cope with those that cannot.

Throughout all these procedures discussed, careful attention is paid to the student's psycholinguistic style, appreciation of semantic environment as well as abilities and disabilities in communication.

Elissa L. Fisher, Hill Top's Director, continues classroom diagnosis with a current Hill Top student.

While much has been written about the need for multi-disciplinary evaluation of children with learning disabilities, little has been said about the child as a diagnostic participant. Through knowledge of what the child believes and feels about his/her own disability, we have a solid foundation for the metacognitive work that must be done if a learning disabled child is to gain insight into his/her own learning difficulties. Two excellent sources of information on this exist. The Self-Administered Student Profile, which was developed in 1980 for use at the Children's Hospital Medical Center in Boston, is a valuable tool either in the original form or as a guide for talking with the child about his/her understanding of his/her learning style. The second is the questionnaire published by Cruikshank, Morse and Johns in their book *Learning Disabilities*: The Struggle from Adolescence toward Adulthood. At Hill Top we dialogue at length with the child in the interview, evaluation sessions, on through the classroom diagnosis, into the group therapy sessions and during the regular classroom periods about how he/she views his/her attention, concentration, efficiency, sequencing, memory, study habits, language skills, visual-spatial orientation, gross and fine motor functioning, likes/dislikes, along with which techniques are helpful and which hinder learning.

Allowing the child to be part of the diagnostic team is a trust building activity, a motivator, and launches the remedial and compensatory process quickly. A statement such as "I can't even make a mistake right" gives the diagnostician much information about the child's self-image. Finally, it points out discrepancies between the teacher and parent reporting as compared to that of the child that may be very significant. The Boston study found the children to be remarkably correct in their self-assessment.

Concerns about practical assessment in the field remain. Much assessment is based on visual factors without considering the auditory. Consequently, many auditory perceptual problems are being missed. All educational diagnosis should include an auditory perceptual screening administered by one who can appreciate the red flag areas in basic educational testing. While deficiency in auditory memory, information, arithmetic, and following directions does not always point to an auditory problem, it should be considered a mandate for further testing. Of the 30 Hill Top students who exhibited such deficiencies on intake over the past three years and who were sent to Delaware County Memorial Hospital Department of Audiology by us for further evaluation, 29 were found to have *significant* auditory perception disabilities. In many cases, the symptoms were previously diagnosed as having emotional causation. Again, the Detroit Test of Learning Aptitude and the Fisher Auditory Checklist are helpful.

Those doing educational assessments frequently become committed to a diagnostic sequence which they simply repeat over and over without allowing the evaluation as it proceeds to direct what further testing is necessary.

Educational clinicians appear to lack training in assessment of language facility and communication disorders. There is little awareness of the effect such disorders may have on classroom functioning and information acquisition.

Frequently, educational evaluations that we review do not speak to the child's strengths nor the compensatory strategies already developed. Since good diagnostic/prescriptive education must proceed from the strengths to the weaknesses this information is crucial.

Finally, many educators of the learning disabled are not receiving the type of professional training in diagnosis and cognitive psychology that is necessary. Since the day-to-day diagnosis and planning goes on in the classroom, the teacher must be knowledgeable and skilled at all levels of the diagnostic/prescriptive process. The bottom line is the educational assessment will only be as good as the professional doing it. □

Psychometric Data

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knows so little at the beginning of an assessment, it seems appropriate to begin with a wide band, then to narrow the band gradually as one makes decisions based on the information obtained and discards one diagnostic conclusion in favor of another. In essence, one makes sequential decisions, moving from one diagnostic instrument to another in exploring hypotheses about the individual which may or may not be confirmed in subsequent diagnostic instruments. Decisions cannot be based on any single datum or score, and the Federal Guidelines stress this in pointing out the need for multiple assessment instruments before coming to decisions around a child's diagnostic picture.

There are certain areas of measurement or certain areas of functioning in each adolescent which should be covered in a thorough, complete assessment. Mann-Suiter and McClung in their *Handbook in Diagnostic Teaching, Second Edition* (1979) point out in a schematic way various areas needing assessment. It is quite clear that these various systems inter-relate and one is not always able to tease apart the specific area of malfunctioning. However, if one can proceed through assessing each of these areas of functioning in a somewhat systematic, logical fashion, one may move from broad band to narrow band assessment and when finished with the diagnostic exercise begin to assemble the report which puts it all together and hopefully leads to remedial suggestions. These areas are 1) verbal systems, 2) non-verbal systems, 3) sensory processes, 4) motor skills, 5) controls, 6) motivation and emotional factors.

Cognitive Systems

It seems appropriate to begin most assessments of an adolescent with a full individual measure of intelligence. One can work with previous test data, but the process of administering and evaluating a child on a Wechsler Scale (1974) yields invaluable information beyond the score. The way in which a child proceeds, either systematically or in a trial-and-error fashion, the way in which he/she handles frustration and increasingly difficult tasks, the manner in which he/she uses an adult for assistance or not, all have value in helping the educator plan for that child.

A relatively recent book by Alan Kaufman on *Intelligent Testing with the WISC-R* (1979) probably offers the clinician the most useful procedures for analyzing a child's cognitive functions. As Kaufman points out, from both the Verbal and Performance parts of the WISC-R, one obtains a fairly good assessment of the verbal and non-verbal systems. One is able to assess language, memory, conceptualization, analysis and synthesis—all of them largely verbal tasks—as well as perception, discrimination, social perception and symbolization—these latter representing non-verbal systems. Kaufman advises one to begin with the overall IQ score and then compare functioning on both the verbal and performance subparts.

Further analysis must follow by examining the subtest patterns within the WISC-R. We know from much recent research (Torgenson, 1980) that learning disabled children constitute a heterogeneous group with different patterns of deficits and strengths. A useful system for examining the WISC-R subtest scores is that devised by Bannatyne (1974) for the WISC and recently validated for the WISC-R by Smith et al (1980). These categories are: spatial ability, conceptual ability, sequencing ability, and acquired knowledge. Each category consists of the mean subtest score of the 3 subtests making up that category. For example, the conceptual category is made up of similarities, vocabulary and comprehension; the sequential category of arithmetic, digit span and coding; the spatial of block design, picture completion and object assembly and acquired knowledge of information, arithmetic and vocabulary. Research has shown that poor readers often have difficulty in the sequential category, but show strengths in the spatial category (Rugel, 1971, Smith, et al, 1980). Conversely, children with difficulties in the spatial category frequently have problems with mathematics (Rourke and Finlayson, 1974). The sequential category is also designated by Kaufman as the distractibility factor and often only behavioral observation of the child will differentiate between a sequencing deficit versus a distractibility problem. While these categories may not be valid for *identifying* the learning disabled child, they do provide a convenient framework for *understanding* his/her assets and deficits.

Discovery of strengths and weaknesses in this pattern analysis of the WISC-R, leads to a more specific analysis of sensory processes which may be malfunctioning, or verbal systems difficulties which are influencing the child's learning. Let us look at a deficit in the spatial category. Here one might look next at problems in visual perception, visual discrimination and visual memory, or the integration of visual-motor processes using such tests as the Beery (Beery-Buktencia, 1967) or Bender (Koppitz, 1975) or the Motor Free Visual Perception Test (Colarusso-Hammill, 1972).

With deficits in the conceptual category, one might want to explore more thoroughly the adolescent's ability to think abstractly. Conceptual thinking involves classifying objects and events in terms of various attributes, relationships and functions. Forming a concept rests on abstractions from perceptions of objects and events. Some knowledge of the level of concrete-abstract thinking will be helpful in planning remedial strategies. One needs to ask questions such as: does the child have difficulty identifying common features among unlike objects; does the child tend to fix on discrete details rather than on the wholes; does the child's vocabulary reflect concrete words and observable actions rather than abstract words?

It is always important to have some measure or observations of the child's expressive and receptive language. Problems in language may lead to exploration of auditory memory, auditory discrimination and auditory sequencing, processes which may underlie language difficulties. Analysis of sensory processes enables one to make inferences about whether the child has difficulties *analyzing* sensory stimuli, *synthesizing* the stimuli, *storing* and *retrieving* the stimuli, or *performing* in response to the stimuli.

There are two fundamental information processing operations and a child may have difficulty with either. One is the analytical-sequential operation and the other is the holistic-simultaneous operation. We know from research that in a majority of human beings, the left hemisphere mediates analytic/sequential information, whereas the right hemisphere

specializes in handling information that is in the form of simultaneous gestalts. It is possible, therefore, for an individual to become over-dependent on one of the two strategies because of some maturational lag in the central nervous system. Both of these two strategies are necessary for reading and a deficiency in one or the other may cause rather specific kinds of symptoms. Difficulties with a series of letters in a word may reflect the analytic-sequential deficit, whereas processing of the salient features of the total word itself may reflect the holistic-simultaneous processing difficulty. Deficits can occur in either the visual or auditory systems. Aaron (1979) in an article on diagnosis and remediation of learning disabilities speaks of the child with the holistic-simultaneous processing deficit as dyseidetic, while the child with the analytic-sequential difficulty is described as dysphonetic. The dyseidetic child spells by ear and has poor eye for the gestalt of the word, e.g. bloo for blue. The dysphonetic child makes bizarre spelling errors such as sotp for stop. Analysis of a child's reading, writing, and spelling performance will often reveal the processing deficits, as will specific measures of speech, language and auditory processing.

Adjunctive to the visual system is the motor and integration of visual-motor functioning. This integration needs to be assessed in terms of fine motor coordination as well as gross motor coordination and lateralization. Other systems less frequently involved (in terms of lag) are the tactile and kinesthetic systems. In fact, these more primitive systems are more often intact and may be the channels used for remediation.

Recent research has indicated that memory functions are very frequently involved in learning disabled child's difficulties. Long-term and short-term memory may both be affected, or one or the other. Problems in short-term memory mean that material may not be stored sufficiently long in the short-term memory system to become permanently stored in long-term memory. Research also indicates that learning disabled children often do not have at their command strategies to aid in memory storage. They do not know how to group and structure material as a mnemonic aid (Torgenson, 1977).

Memory deficits may occur in either the auditory or visual areas, or in both. Likewise, memory for meaningful material versus non-meaningful material may be differentially stored. It may be extremely important for the learning disabled child to be helped to assign meaning to material which must be learned and stored in the memory system.

Emotional Components

Along with the cognitive functions, systems which reflect the emotional components or temperament and style components must also be studied. Among these are the control systems which we know are also affected by maturational lags or specific damage in the nervous system. Most of our observations in the area of control systems are obtained through careful behavioral notations on the child's manner of working rather than on specific psychometric data. An impulsive versus reflective approach to tasks is easily observed. Both of these styles of approaching a task may be important depending on the problem at hand. Some of the research in cognitive style has pointed out that the fast, inaccurate style does make for difficulty in learning, while the fast but accurate worker often achieves very well. Conversely, the reflective and accurate style may be more appropriate when material is very complex and a more reasoned and thought out solution is required. The slow inaccurate child, on the other hand, is often the poor learner (Ault, 1973).

Ross (1976) has carefully discussed the factor of selective attention in learning. He points out that the pre-school child is often over inclusive in his/her attention to the stimuli in his/her world. As the child matures he/she becomes increasingly focused and selective in attending to stimuli which are important to the task at hand, and ignoring peripheral stimuli. Ross believes that a primary cause of learning differences is a lag in selective attention. Often the factor of selective attention has been confused with distractibility and, in fact, such distractibility may reflect the other side of the coin; i.e., the child who is not selectively attentive may easily be distracted by peripheral stimuli.

A perseverative approach to tasks is likewise not efficient. Here the child will not shift easily from task to task, has difficulty in closing or ending a task and may perseverate in errors or incorrect work habits. Interrupting the perseverative chain of behavior is as important as controlling and limiting the impulsive distractible behavior.

Perseverative behavior can be observed in tasks on the Wechsler scale as well as perseverative repetitive conversation or themes reflected on thematic projective material.

The reaction pattern of the child refers more to a threshold of behavior than a type of behavior. We all know children who can be turned on rapidly and intensively in their response, whereas other children are more sluggish and manifest a high threshold before a response is forthcoming. Different threshold levels have been reliably observed even in young infants (Thomas, Chess, Birch, Hertzig and Korn, 1963). Both reaction styles need modification and training in the educative process.

Motivational Systems

We gather most of the data for assessing motivational systems from personality measures and careful observation of the child in the evaluation session. Other useful data regarding motivational systems may be acquired through information from parents, teachers and other adults with whom the child comes in contact.

There is probably no one variable within these systems of greater importance than self-concept. How the adolescent views him/her self in relation to learning abilities, skills and performance, is crucial to overcoming cognitive deficits and learning failures (Piers-Harris, 1969). This is probably of the greatest importance in the adolescent years where a history of failure has built up poor self-concept.

Debilitating anxiety likewise interferes with efficient learning and often

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In This Issue . . .

This issue of **Spectrum** focuses on an interdisciplinary examination of current assessment issues and their influence on the prescriptive treatment of learning disabilities. Reporting from their professional perspectives are Janet L. Hoopes, Ph.D., an educational psychologist; Patricia M. Bricklin, Ph.D., a clinical psychologist; and Elissa L. Fisher, Ed.M., an educator and the founder and director of The Hill Top Preparatory School.

Dr. Bricklin's and Mrs. Fisher's articles are based on their presentations at the third annual Hill Top Conference on "Current Assessment Issues in Learning Disabilities," held this past November. Dr. Hoopes' article stems from her presentation at the first Hill Top Conference on "Neuropsychology and Learning Disorders" in November, 1981.

These conferences, like **Spectrum**, reflect Hill Top's continuing efforts to increase dialogue among all professionals—therapists, physicians, counselors, and educators—who are involved in the diagnosis and treatment of learning disabilities. □

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paralyzes the adolescent so that he/she can no longer proceed to tackle his/her learning, or in fact even come to school in the first place. Research has shown that a moderate amount of anxiety is motivating (Sarason, 1960), but certainly anxiety that is out of bounds produces marked interference in learning.

One more motivational system factor is that of the passive versus active individual. Because learning is an active process, the child who has been conditioned to merely receive and passively absorb what comes to him/her rather than actively investing him/her self in the learning situation is going to have considerable difficulty. Whereas most young children are active, curious and motivated to learn from their environment, parental child-rearing techniques and over control by parents sometimes results in creating a very passive child who is afraid to reach out and interact with his/her environment and hence construct his/her own learning and system of knowledge (Abrams, 1973).

Conclusion

If a psychological report comments on, or explores and then clearly delineates any or all of the cognitive systems, motivational systems and control systems, the educator has a wealth of data from which to construct the remedial plan. The teacher then needs to modify his/her input as the child demonstrates these deficits in the classroom.

The psychologist must put the diagnostic data into a report that is neither too long or burdensome to the reader, nor so complex and full of jargon that the educator can make no sense out of it. Although it is not an easy task, it is necessary to construct this person-centered analysis if the results are to have value for the remediation of the learning difficulty. □

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Psychotherapeutic Interventions for LD Adolescents, Families

by Moss A. Jackson, Ph.D.

One of the most difficult areas in psychotherapy involves working with teenagers. For the most part, teenagers as a group do not seek out psychotherapy but are, rather, referred at the strenuous and direct urging of parents and teachers. The adolescent with learning disabilities brings into therapy a complex array of problems and resistances which can beat down even an experienced psychotherapist who is not savvy to the unique problems of learning disabled teenagers and their families. In the process of working with this group, I have found a number of key factors to be pertinent in constructing and implementing a successful psychotherapeutic program. These involve (1) an understanding of the developmental background of the family, (2) the disruption in the life cycle of the family, (3) the crisis of adolescence, and (4) the nature of therapeutic intervention.

Developmental Background

Soon after a child's birth, a parent knows if there is something wrong with the development of the youngster. Mothers in particular are highly alert and sensitive to any tempermental or subtle behaviors which do not appear to fit a well-defined pattern. Frequently, the mother of a learning disabled youngster will report that her child is somehow different. For example, the child may be hyperactive, colicky, resistant to physical affection, does not look at the parent or is unresponsive to the solicitations of the parent. Mother knows that something is "wrong." However, in response to her premonitions, little support or acknowledgement is given by significant adults in her life. Husbands tend to dismiss these observations and feelings as hysterical or premature, while pediatricians state that the child will outgrow whatever immaturities the parents are concerned about. Basically, there is an absence of rallying-around the parent of a child with a "hidden handicap," unlike the support system which frequently gathers to nurture the family with a more obvious and observable handicap. Because of the lack of agreement and support, parents have little opportunity to deal effectively with their anxieties and stress. As a result, there tends to be an incomplete processing of this early crisis or trauma in the family life. Instead of feeling satisfied and successful as parents, anger, sadness and anxiety can easily develop.

In such a situation, a developmental fixation can take place in which there is a rupture in the normal developmental life of the family. Frequently, the parent will feel powerless, incompetent and suffer further from the debilitating effects of guilt and shame.

Disruptions of Family Life Cycle

When a couple gives birth to a child it is marked by a movement from a two-person relationship to a family configuration. Ideally, the husband and wife gradually develop clear boundaries noting the progression of a couple to a parental status. Issues such as husband/wife time versus parent/child time become critical areas to negotiate. Due to the unpredicted crisis of the learning disabled child though, especially when there is non-agreement and lack of support for recognizing and dealing with this early trauma, a disruption of the family's developmental tasks ensues. This frequently takes the form of marital schism in which the mother becomes excessively involved with the child and the father distances or becomes alienated from the parent/child relationship. Many times, the father focuses excessively on his work and takes the role of a critical parent figure in the marital relationship. In this circumstance, he critically evaluates the mother's compentency in dealing with their youngster. The result of this is continued stress with further increase in a sense of betrayal and distancing between the parents.

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Social Competency Groups Improve Interpersonal Skills

by Carol B. Auerbach, M.S.

Social competence is defined by Wilchesky as "a set of basic components which collectively permit the individual to successfully engage in interpersonal relationships, in the event he/she desires to do so. The core group of components involved in this process is composed of 1) an ability to encode and decode both verbal and non-verbal communications, 2) a sensitivity to the needs and feelings of others, 3) an ability to independently utilize interpersonal cognitive problem-solving skills, and 4) an awareness of peer group norms and an ability and inclination to behave socially in a manner consistent with those norms."

Skills in encoding, processing, decoding, planning and execution of tasks which are prerequisites of successful social interactions are often the areas of greatest difficulty for learning disabled youngsters. The deficits which impede the ability to deal adequately with academic learning also adversely affect social functioning. Just as a child may experience difficulty in learning to decipher, distinguish letters of the alphabet, and put these in proper sequence to read or spell, he/she may have difficulty "reading" a social situation where distinguishing a smile from a frown or noting the nuances of facial expressions and body language are extremely important. Similarly, children with auditory processing deficits will probably find it hard to identify and distinguish a sarcastic, defiant, disgusted, humorous, or doubtful tone.

Egocentrism, perseveration, impulsivity, distractibility and concrete thinking also affect social interactions as much as they do academic functioning. Those who are unable to focus in on a conversation, who interrupt, talk excessively about themselves, change subjects frequently, have that "faraway" look, fail to make eye contact or appear restless come across as not being empathetic and appear bored and boring. Concrete thinking is apparent when many learning disabled youngsters miss the nuances of conversation because they do not understand the jokes or language idioms of their peers. For example, in a conversation where "social butterfly" was mentioned, a youngster I worked with stopped to discuss how it was possible for butterflies to be social. Similarly when two boys were talking of several bus incidents where a youngster "got on my back," one of the boys could not understand how anyone could get on someone's back on the bus.

Although learning disabled youngsters frequently are involved in repetitive or similar social experiences, they may not have noticed, critically assessed or remembered them. They may be uncertain as to which pieces of information are relevant or may only process one part of an interaction. Research suggests that learning disabled children are less likely than their non-disabled peers to request information that will clarify ambiguity. It appears harder for them to sense that most behavior falls into predictable patterns. Frequently, they are unable to imagine a social situation in advance, plan and rehearse their interactional strategies and imagine responses to their behavior. As a result, they tend to avoid social situations where they feel they run the risk of failure.

Doreen Kronick in *Social Development of Learning Disabled Persons* and Rita Ernest and Paul Siegel in *Help for the Lonely Child* are authors who write extensively about the need to develop social skill programs for learning disabled people, but there is little in the literature to suggest that such groups are extensively used either within educational settings or private clinical practice.

Aware of this need, the counseling center with which I am associated began forming social competency groups for adolescents four years ago and I have been a therapist in the program since its inception. The goals are to 1) break the cycle of risk avoidance and poor self-esteem, 2) teach basic social skills, and 3) provide and assist in the transition between the group and the outside world.

In order to create a safe environment for the adolescents to experiment and become more comfortable with taking risks, the individuals within the group are screened carefully. Every attempt is made to have members who are age compatible and at similar developmental levels. Either one or two therapists lead the group, with one therapist involved for every five participants and total group size limited to ten. Individual as well as group goals are established early in the sessions and are monitored and modified as needed.

Sessions generally last for fifteen weeks and new members are permitted to join during the first several weeks. There appears to be some benefit in adding new members to provide the original participants the opportunity to empathize with how a new person feels coming into an existing group and to examine ways to incorporate that person into the established system. For the person coming in with appropriate anxiety and concern, it is often a new feeling to be incorporated and accepted.

As I have observed and worked with learning disabled adolescents, I have learned not to take anything for granted. Knowing how to enter a room, say "hi," make eye contact, and smile are frequently skills which have to be taught and practiced. Feedback by the therapist(s) and members of the group is encouraged. Communication with teachers and counselors at school is an important part of the feedback process allowing the therapist to learn how the youngster is behaving with peers as he/she begins to experiment outside the group. Much depends upon his/her motivation and how well defended he/she remains. Role-playing, modeling, coaching, and video-taping are techniques used to teach communication skills, both verbal and non-verbal. The skills the participants work on developing during this period are:

- initiating and participating in conversations,
- becoming aware of one's own feelings and those of others,
- learning how to express feelings appropriately,
- listening to one's self in order to become more aware of voice, pitch and tone,
- becoming aware of body language and how it is perceived by others,
- learning how to live with and accept one's own limitations, and
- training in assertiveness.

Depending upon how each adolescent's learning disability manifests itself, emphasis is placed on helping him/her cope with areas of deficit. For example, strategies would differ for a youngster who has receptive versus expressive difficulties or visual-perceptive versus auditory processing difficulties.

Strategies have been developed to control nervous behavior. One adolescent giggled at almost anything that was said. Once she could perceive that the giggling was her way of expressing nervousness and she could articulate it, she learned to control the giggling by pinching the palm of her hand whenever she felt nervous. Similarly, another young man scratched his arms whenever nervous. He learned to say, "I'm uncomfortable or nervous about this." A decrease was noticed both in the scratching and the apparent nervousness.

Within the group, members learn to be more aware of their needs and various ways in which they can ask for what they want. When confused about a word, idiom, joke, body language or voice tone, they are encouraged to ask for clarification.

Because the group is intended to be a vehicle to move the participants toward more comfortable feelings in social situations in their everyday lives, in vivo experiences are gradually introduced and greater responsibility for the group is given to its members. When they appear ready and interested, they agree to meet one hour prior to the session and walk around the community. They accept the responsibility of letting the group know if they will be late or unable to participate that day. During that hour, they may eat together, browse in a book or record shop, make decisions about walking under or over the train tracks, or break up into pairs or other smaller groups. When they return some time is spent discussing what occurred, how they problem-solved and communicated together. At times, the therapist may join them in order to observe and give additional feedback. In addition to meeting prior to the session, they are encouraged to have a "mini" party in the office, requiring that they plan, organize, and implement it.

As the group develops together, it becomes increasingly apparent that they want and are capable of taking on more responsibility in the running of the group. Consequently, when an issue arises that they want to work on, they are able to express their preference to do so with their peers without the adult-therapist. Time is allocated for this and then they apprise the therapist of their conclusions or strategies.

The process described usually takes a minimum of a year. It is a process requiring many of the elements found in effective academic remedial programs—structure, concrete examples, use of various sensory modalities, cues for attention, high-interest material, small increments, modeling of appropriate response, immediate feedback, positive reinforcement, spaced practice, and opportunities for overlearning.

During the time I have been involved with social compentency groups for learning disabled adolescents, I have seen significant improvements in most of the youngsters who participated both within and, more importantly, outside the group. The ones who did not appear to make significant gains were those who were not motivated to be there, who felt that parents had forced them or who resisted acknowledging that they had any difficulty in their social interactions. Dating, establishing friendships, participating in group experiences such as teen trips and camping excursions are some of the activities the successful participants experienced with greater frequency after the group.

Most people learn communication skills indirectly, through casual imitation and observation, but many learning disabled adolescents require direct instructional intervention in order to involve themselves effectively in social interactions. The same deficits which adversely affect their academic performance affect their social skills. Social competency groups for learning disabled adolescents assist those who lack friends and who want to develop more effective interpersonal relationships. Just as it is possible to teach academic skills,the same is possible in the social area.□

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Psychotherapeutic Interventions
continued from page 1

As the child moves into the school age years, he/she, like the mother, also has a sense that something is wrong. Unfortunately, because the family environment is not nurtured enough to permit a direct confrontation and processing of the problem, the child cannot face or tell the truth. Recognizing that there is something wrong but not having an acceptable way to express his/her experiences, the youngster experiences increased anxiety and frustration. Moreover, because parents are not in basic alignment and mutual support, any direct comment on the disability and its accompanying emotional upset could potentiate the threat of marital distress. The result of this dynamic could force the child to become even more learning disabled in order to protect him/herself and the family from potential family disequilibrium. At this point, not only is the child learning disabled but so is the entire family.

During this time of school age involvement, the crisis shifts from home-related difficulties to the academic area. The necessity for increased attention skills is required, along with demands for reading recognition, comprehension and subsequent critical reading abilities. The family anxiety crystalizes around the scholastic difficulty, moving the focus now out of the family onto the school. During these critical years between first and fifth grade, the academic need, conflict over homework, the unclear definition of the child's problem and frequent behavioral disruptions in the classroom become the content areas which consume both parents' and teachers' attention.

Crisis of Adolescence

As the learning disabled child moves into adolescence and middle school, the problem develops into a more volatile issue. The impact of adolescence in most families precipitates a new crisis. With the rush of physiological and social changes and emotional-cognitive shifts, new negotiations are necessary in order to accommodate the emerging adolescent and parents. Old patterns must be broken and a new equilibrium must be attained to insure that all parties can thrive in the new family atmosphere. For the parent of a learning disabled child this normative crisis can reach astronomical levels of panic. The parent develops a sense that time may be running out, that the child is no longer a child, that soon their son/daughter will move into high school without having developed the necessary learning attitude, knowledge and strategies required for successful adult living. At such times, parents put more demands on the child to "shape up," "grow up," or "straighten up." The adolescent responds with increased frustration, agitation and rigidity since he/she feels basically powerless to do anything about the dilemma. Both parents and teenager develop a mutual distrust of the school since little academic and behavioral gains have been made.

If the youngster has had the fortune to be accurately diagnosed and placed in a special educational program and the family received supportive therapy or counseling during the early years, the impact of the adolescent crisis is not as great. Where academic and clinical support are not present during the developmental years, the crisis becomes quite precipitous. The family seems to blow apart even the youngster without the learning disability, the so called "well sibling," who experiences an increase in tension and upset.

Nature of Psychotherapeutic Interventions: The Tri-Dimensional Model

In dealing with the family in which a learning disability exists, it is necessary for the therapist to possess an interrelated set of skills. It is necessary to approach the family on a tri-dimensional level: affective, instrumental and communication.

In the affective level, it is necessary for the therapist to support the unexpressed grieving and mourning upon giving birth to the handicapped child. It involves acknowledging and accepting whatever feelings are present between parents and children, spouses, and siblings. The early sessions can be quite stormy and uncomfortable because blaming, anger, guilt and fear are frequently present. It is the job of the therapist to recognize these feelings and to allow for a discharge of emotions so that energy can be freed to deal effectively with constructive expression of emotion and finding ways in which to live and work together.

Therapeutically, work also has to be done on the marital relationship if the history of the parent/child interaction is characterized by maternal over-involvement and paternal alienation. Feelings of mutual mistrust and criticism must be explored, along with the support of expression of feelings, subsequent mourning of the early loss and dealing with the frustration resulting from the developmental fixations. The father must be reinvolved in the family on an active basis where he becomes more directly integrated into school consultations and up-bringing of the children.

At the instrumental level, the therapist must also teach the parents and the children in the family skills involving a working vocabulary of what the learning disability is. Parents need to know what a receptive, integrative or expressive language disorder is. Terms such as sequencing difficulty, part/whole disturbance, auditory or visual memory deficits have to be defined, along with knowledge of the specific content areas in which the youngster has difficulty and the ways in which learning disabled teenagers typically cope with their difficulties. Developing a working vocabulary allows the family to acquire a semantic environment in which they can locate, become aware and discuss various issues as they arise in the family. Without a working vocabulary, no such foundation can be built and fragmentation and the blaming-rejection process only continue at a more rapid rate.

A third level for the therapist involves teaching the parents and other family members how to effectively communicate. This involves recognizing their automatic response patterns and reactive outbursts to frustration or other stresses in the family. They need to become aware of how other family members feel and to learn ways of communicating to each other that allow for recognition of feelings, mutual nurturing and developing alternative problem solving techniques. Within this communication

dimension, family members have the opportunity to further develop strategies that allow for reducing frustration, finding ways to argue constructively and differentiating between which conflicts and stresses are expected in a family and which are due to the specific impact of a learning disability.

In addition, it is frequently necessary for the therapist to reframe or redirect the parents away from a friendship or buddy system with their children towards a more direct one in which they become advocates and models of what effective adult living is about. They must be helped to learn to "take the heat" and that loving from a distance is not enough nor is being permissive and allowing their youngsters to intimidate the household an acceptable atmosphere in which to conduct family business.

It is frequently at this point that resistance is encountered in the family and either the family drops out of therapy or the parents demand that the therapist focus excessively and predominantly on the child. After all, the reason they came to the therapist in the first place was to "straighten out their youngster" and not to focus on the marriage or other family issues. At this stage, the therapist must be able to accept the parents' resistance as an expression of apprehension and anxiety. People do not change graciously and the natural response is one of self-protection, attempted rejection of the larger therapeutic issue or withdrawal from therapy. At such times, the learning disabled teenager or even another sibling might precipitate a crisis in order to protect the family from continuing their work on family related issues. The therapist must have a working knowledge of family dynamics, the developmental impact of the learning disability on the family and the anxiety which ensues when the disability is confronted and the traditional coping strategies challenged. It helps to be active and direct in this work and to have flexible skill and perseverance in dealing with resistance.

It is imperative to have a working relationship with school teachers, school psychologists and other specialists who may be involved in the academic area. Working with the learning disabled family is not just a one hour per week therapy session. Successful work often involves developing a team approach and a systems way of understanding and intervening with the learning disability. The clinical, educational and family dynamics go hand-in-hand and what changes develop in one area have direct impact and relevance for movement in one of the other areas.

In terms of tactical intervention, it is necessary to have a sense of humor, to communicate with a learning disabled teenager in such a way that he/she fully understands what you are saying. It definitely helps if the therapist possesses a reasonably high frustration level and is able to diffuse energy without demanding that the child give up his/her threats or accusations. Moreover, it is helpful to clarify the situation, summarize every once in a while what is going on, ask people to play back what they hear others are saying. Whenever possible, involve the youngster in looking at what his/her parents are doing and what he/she may also be contributing to the difficulty. Continuous interventions are necessary from week to week or day by day in order to make sure the youngster and the parents fully recognize their patterns and take responsibility for changing some of their ongoing interactions.

When the youngster manifests his/her learning disability in terms of not understanding what is being said or reacting in an explosive way, the therapist can thank or compliment the teenage patient for being so "courageous and willing" to express the learning disability in such an obvious way that everyone can recognize what it looks like.

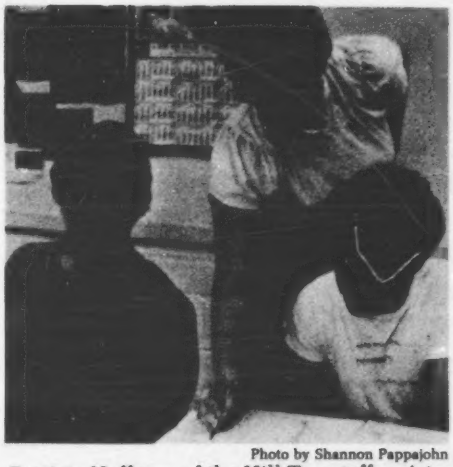
Lastly, a reality oriented and processing type of approach works very well when the interventions involve a sequence of the following: stating what is going on, recognizing feelings, acknowledging that the different persons have different points of view, looking at how individuals are dealing with the problem, supporting risk-taking and evaluating the results of new problem-solving attempts.

Psychotherapeutic work with the learning disabled adolescent and his/her family is not a simple process. In general, the method of treatment best suited for this work is combined reality-oriented therapy and a family systems framework. The therapist must be able to understand the various factors involved in having a learning disability, integrating these factors into a systems framework while maintaining the personal emotional stability to sustain a persistent, flexible and humanistic therapeutic orientation. □

Moss A. Jackson, Ph.D., a clinical psychologist, serves as Chief Clinical Consultant to The Hill Top Preparatory School.

Photo by Shannon Pappajohn

Moss Jackson, Ph.D., meets informally with a student at Hill Top.



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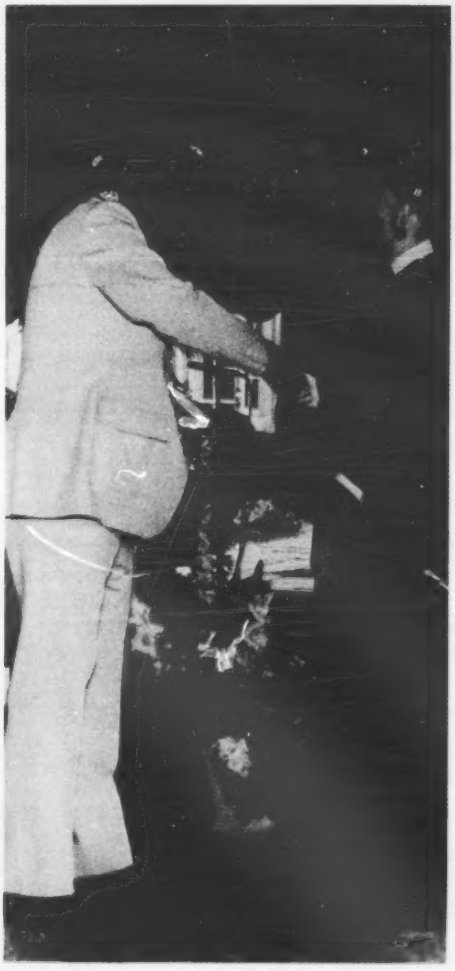
Patricia Hoffman of the Hill Top staff assists students in the study skills class with the correct format of their final research papers.



Successful completion of Hill Top's academic/clinical program earns the graduate his high school diploma. James H. Fisher, director of counseling, congratulates a member of the Class of 1983.

Academic/Therapeutic Setting Impacts IQ Scores in Pilot Study

by Carole R. Bogdanoff, M.A.

A Pilot Study

Research has indicated that the stability of an individual's intelligence quotient is a function of many factors. The testing instrument(s) employed, genetic and developmental influences, home and educational environments, and degree of motivation may all play a significant role (Bloom, 1964). Since I.Q. can change (although there is some degree of stability after age 6), caution must be used when predicting intellectual potential and when planning for educational placement. This problem is especially relevant when assessing a learning disabled student. The Wechsler Intelligence Scale for Children-Revised (WISC-R), the most widely used individually administered intelligence test, is actually a measure of formal and informal learning (Wesman, 1968). A learning disabled child with a deficit in one or more of the basic psychological processes involved in the reception, expression or integration of written or spoken language is at a serious disadvantage in the acquisition of information, and the Full Scale I.Q. score may be misleading.

A more accurate picture, however, can be derived from a closer examination of the data obtained in the WISC-R. Intellectual strengths and weaknesses can be critically assessed by carefully evaluating several parameters. These include the discrepancy between Verbal and Performance I.Q., intra and inter subtest variability, the Bannatyne Categories (spatial ability, conceptual ability, sequencing ability and the ability to acquire factual information), and performance on a variety of other measures. In addition, the learning disabled child has been characterized as an inactive learner (Torgensen, 1979). Because of cumulative failures and frustrations with academic tasks, he/she may lack motivation to learn and, therefore, not participate actively in learning.

It was hypothesized that in an educational program which emphasizes both process and content, as well as the emotional factors which interfere with learning, improvement in both verbal conceptualization and acquired knowledge should occur, thereby increasing the total Verbal I.Q.

A pilot study was undertaken to determine whether I.Q. can be altered in learning disabled adolescents and whether a specialized academic and therapeutic setting can be a significant influence.

Method

This study examined changes over time as measured by the WISC-R and the WAIS-R in a sample of learning disabled students at the Hill Top Preparatory School, a private day school for learning disabled adolescents which provides a therapeutic and educational environment consisting of an individualized pupil centered academic program. Full Scale, Verbal and Performance I.Q.'s as well as the Bannatyne Acquired Knowledge and Verbal Conceptualization groupings were measured for change over a period of 2½ to 7 years. The sample consisted of ten students with a mean age of eighteen years. Each student had been independently diagnosed as learning disabled prior to admission and had either receptive, expressive, integrative or diffuse learning disabilities. The WAIS-R was administered to each student in the study prior to graduation, and each score was compared to that obtained on the preadmission WISC-R. The scores were then analyzed to determine if significant change had occurred.

Results

Verbal I.Q. increased in every student; Performance I.Q. increased in seven, decreased in two and remained the same for one. Full Scale I.Q. increased in nine of the ten subjects. A statistically significant difference was obtained between the means for pre-admission and pregraduation on Full Scale ($p<.01$) and Verbal ($p<.01$) I.Q.'s. Although the mean Performance

I.Q. increased 7.4 points, the results were not significant. The Bannatyne Verbal Conceptualization cluster (similarities, vocabulary, comprehension) also showed significant growth ($p<.01$), attributed mainly to the increase in Comprehension skills. The Acquired Knowledge cluster (information, arithmetic, vocabulary) remained constant, with a decrease in mean arithmetic scores ($p<.05$).

Discussion

Previous research suggests that I.Q. can be modified as a result of environmental influences (Bloom, 1964). This study focused on the positive influence of a specialized educational setting for the learning disabled adolescent. The increase in mean Full Scale I.Q. was primarily due to the significant growth in the mean Verbal I.Q. Although significant change was not noted in mean Performance I.Q., some students did demonstrate considerable improvement, possibly reflecting the heterogeneity of the population.

To further investigate the factors involved in Verbal I.Q. improvement, Verbal Conceptualizations and Acquired Knowledge (the Bannatyne Clusters) were examined. Verbal Conceptualization is a reflection of judgement, verbal reasoning and language development, while Acquired Knowledge reflects long term memory for information gathered from home and school environment (Kaufman, 1979). The growth in Verbal Conceptualization was mainly attributed to the increase in performance on the Comprehension subtest, which measures social judgement and the ability to use past experiences effectively to solve new situations. The relative inability of some learning disabled students to integrate information and to reason efficiently can adversely influence social as well as academic functioning. The Hill Top program addresses both issues, stessing psychosocial and academic growth. Through group therapy, the adolescent develops an understanding of the connection between his/her academic and social difficulties. It is felt that the improvement in comprehension is due to the combined emphasis of classroom instruction and group therapy on mature and independent problem solving. Futher research is recommended to scientifically validate this hypothesis.

The stability of the Acquired Knowledge Cluster was related to two major factors: lack of significant change in Vocabulary and General Information scores. However, qualitative observations during testing suggest that these scores may not be an accurate reflection of the learning disabled student's ability in these areas. For example, many subjects were able to solve the arithmetic word problems with the use of pencil and paper which is not permitted on the WISC-R or WAIS-R. Therefore, a subject with a short-term memory deficit is penalized. Inconsistent responses were observed in General Information and Vocabulary, with some difficult items frequently answered correctly and some easier items often missed. This suggests that these students are able to acquire, retain and retrieve new facts but that gaps in their informational store still exist due to prior inefficiencies. Since the learning disabled individual often needs contextual cues to retrieve information, a different test format may more accurately reflect acquired knowledge.

Conclusions

This pilot study demonstrated a significant improvement in I.Q. scores in learning disabled adolescents. Future controlled research is needed with a homogeneous population in order to more fully assess the impact of a combined individualized academic approach with a reality based clinical program. Furthermore, overall scores derived from standardized testing instruments such as the WISC-R and the WAIS-R may not be a true reflection of a learning disabled individual's true abilities. Many other factors must be taken into consideration on the accurate evaluation of the learning disabled student's intellectual functioning. □

Carol R. Bogdanoff, M.A., a therapist with The Center for Creative Development, is in the doctoral program in education and child development at Bryn Mawr College.

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Spectrum Ends Its Initial Year of Publication

This issue completes **Spectrum's** first year of publication. The editors acknowledge with gratitude the grant from The McLean Foundation which has allowed us to establish this vehicle for communicating with other concerned professionals involved in the diagnosis and treatment of learning disabilities.

We also extend our thanks to our readers whose expressions of appreciation and praise have encouraged us throughout the year. If you know of others who should be receiving **Spectrum**, please let us know by completing the coupon below and returning it to Hill Top. □

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To Submit Articles . . .

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A brief resume of relevant professional experience should be included. Previously published articles will not be considered and manuscripts will not be returned to the author unless a self-addressed, stamped envelope is enclosed for that purpose. □

In the September Issue . . .

September's **Spectrum** will be devoted to strategies to assist learning disabled students to plan for their post high school years. A step-by-step counseling plan for seniors and a model transitional year for graduates will be featured.

Summer Graduate Course Offers Guidelines for Math Education

"An Irreverent Look at Mathematics and a Serious Program of Math Education for the Learning Disabled Student," a two credit graduate course, will be offered at Hill Top July 30-August 4.

While much attention in the past has been given to the reading problems of the learning disabled, many educators have only recently focused on strategies for improving the mathematical skills of this group. This course, co-sponsored by Hill Top and The Evening College and Summer Session of The Johns Hopkins University, has been designed for classroom teachers and administrators responsible for developing curriculum for learning disabled students.

The program will include classroom observation and didactic presentations by the faculty consisting of Patricia M. Bricklin, Ph.D., clinical psychologist and a member of Hopkins' Evening College faculty; June M. White, Ph.D., Hill Top's research director and a member of the mathematics faculty of St. Petersburg Junior College; Elissa L. Fisher, Ed.M., Hill Top's director; and James H. Fisher, M.Div., director of counseling.

Topics to be considered include:

- Knowing Your Students, Subject, and Goals
- Developing an Effective Program
- Providing a Real Learning Environment
- Acquiring Successful Techniques in Content and Process
- Adapting Others' Successes to Fit Your Situation

Participants with an M.A. degree or those enrolled in an approved program, upon completion of a final written project and submission of a an official transcript, may be eligible for two graduate credits from Hopkins. For more information, contact Ann Denny at Hill Top. □

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